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*Telephone: WHitehall 9233 (12 lines) Telegrams: "Trazette Parl, London"*

BRANCH OFFICES
GLASGOW: 87, Union Street . . . . . *Central 4646*
NEWCASTLE-ON-TYNE: 21, Mosley Street . . *Newcastle-on-Tyne 22239*
MANCHESTER: Century House, St. Peter's Square . . . *Central 3101*
BIRMINGHAM: 90, Hagley Road, Edgbaston . . . . *Edgbaston 2466*
LEEDS: 70, Albion Street . . . . . *Leeds 27174*
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## Disappointing Coal Outlook

STATISTICS published last week showed a loss of over £5 million on colliery working by the National Coal Board in the third quarter of 1952. Output for the year as a whole increased by 2·4 per cent, but this compared with a rise of 7·8 per cent in 1951 and was accompanied by a fall from 303 to 300 tons in output per man-year. A summary of these results by Sir Hubert Houldsworth, Chairman of the National Coal Board, explained that increased manpower had resulted in more inexperienced men being at work and necessitated the employment of experienced workers on unproductive tasks in opening up new coalfaces for them. Even if this is a passing phase, and the influx of recruits means a turn for the better in one of the industry's troubles, there has been less evidence than could be desired of the mechanisation of which much has been heard being put to good account; and an increase in the number of disputes that is not reassuring for the future. The Ridley report on use of fuel and power resources last year estimated that United Kingdom coal output was some 15 to 20 million tons below demand, adding that current increasing industrial and commercial demands could be met only by restricting non-industrial use and coal exports. On these and other grounds, the committee recommended intensified trials of new motive power on the railways with a view to reducing the consumption of high-grade coal at low efficiency in steam locomotives. At that time it was estimated that the National Coal Board might be able to meet in full the demand for coal in ten years' time, but the committee made the reservation that output was bound to remain uncertain. This opinion is confirmed only too well by the latest results and the outlook, and reinforces the urgency of the recommendation to investigate alternative forms of motive power. Memories of the troubled history in the coal industry have caused many to view its results since nationalisation with a tolerance noticeably withheld from the railways, for example, whose product in the form of transport receives more regular criticism than the quality and shortage of coal, while the hours its employees work are passed over in dead silence compared with the publicity accorded to Saturday shifts in the coal mines.

## Overseas Railwaymen in Honours List

THE New Year Honours List, a preliminary selection from which appeared in our last week's issue, was not marked by generous treatment to railwaymen. As will be seen from the second selection elsewhere in this issue, the recipients include a number of persons well known on overseas railway administrations. Among those who receive the C.M.G. is Mr. R. W. Foxlee, Engineer in Chief of the Crown Agents for the Colonies; in that office also is Mr. M. W. Dodds, who receives the M.B.E. Mr. L. V. Keitley-Duff, a former General Manager in Bolivia, of the Antofagasta (Chili) & Bolivia Railway, is a C.B.E., and Mr. F. E. Hough, Chief Mechanical Engineer of the Rhodesia Railways, also receives that honour, as does Mr. H. Sparrow, who holds a similar position with the North Western Railway, Pakistan. Mr. M. Kanagasabay, General Manager of the Ceylon Government Railway, is given an O.B.E., another recipient of which is Mr. H. F. Dennison, Signal Engineer, Eastern Bengal Railway. Mr. W. J. Russell, formerly Assistant Engineer in the East African Railways Administration, is one of the new M.B.E.s as is also Mr. T. F. Shinkfield, Chief Draughtsman on the Iraqi State Railways. Mr. F. G. Dean, District Operating Superintendent, Worcester, Western Region of British Railways, who is awarded the M.B.E., receives his honour in respect of his work while on the staff of Sir Michael Barrington-Ward, as Operating Assistant at the Railway Executive.

## Flight from Capital

LONDON, once the magnet of fortune seekers with its gold-paved streets, is being effectively bricked-up behind a wall of higher fares. It is already difficult to find staff of some grades, particularly typists, who used to like working in London but now prefer employment near home to avoid high railway fares and lunch prices. Some employers have left London already and are satisfied with the change. Others are contemplating establishing their businesses in their home suburbs. Already there has been a decrease in the London population of over a million persons, and the L.C.C. plans to move out 400,000 more over the next twenty years. The most recent step in this direction has been the Council's agreement to rehouse 5,000 London dwellers at Ashford, in Kent, where a railway locomotive and carriage works has existed for over a century. These processes may well be quickened by a further increase in railway fares and lead to a decline in the number of rail travellers. It is a disagreeable thought that the unhallowed joy of the fare bilker may be shared by worthy persons at the prospect of depriving the railways of their custom after feeling themselves for some years the helpless victims of these apparently endless experiments with intractable transport accounts.

## Anglo-Argentine Trade Pact

THE Anglo-Argentine trade agreement signed at the end of December contained no new clause about financial remittances, either in respect of compensation for former British-owned companies or earnings of undertakings still operating there. Argentina is reported, however, to have agreed to continue the remittance of pen-

sions to former British employees of the Argentine railways. The reference in the pact to compensation merely repeated the wording of the 1951 agreement, but it is understood that the Argentine Government intends to appoint a commission by the end of January to examine the outstanding problems of the British-owned utilities, and that the commission is to report within six months. Hopes have been expressed in Argentina that the position regarding remittances will be better in 1954. The railways' liquidation problems last year entered what was hoped to be their final stage. Mr. R. Montgomery, legal and commercial representative in Argentina of the liquidators of the former British-owned railway companies said when visiting London in March that over 1,500 lawsuits and thousands of private claims had been concluded. Discussions with the Argentine government had been friendly, and it was chiefly the exigencies of administrative routine and the complexity of the operation that caused delay in settlement.

## Overseas Railway Traffics

FOR the month of November Canadian National operating revenue at £18·4 million was seasonally down on the October figure but slightly exceeded that for November, 1951; operating expenses at £16·7 million were below those for October and for November of last year. The aggregate net receipts January to November at £14·2 million was slightly more than for 1951; but aggregate revenue at £205 million compares with £190 million last year, and aggregate operating expenses £191 against £176 million. Canadian Pacific net earnings for November at £965,000 show a marked drop compared with £1·4 million the previous year, largely due to a rise of £758,000 in working expenses. The aggregate for the ten months to November this year was £139 million compared with £131 million in 1951. The November traffic receipts of the Barsi Light Railway, which the Government of India, as announced in last week's issue, intends to take over on January 1 next—presumably by absorption into the Central Railway—were Rs. 3,42,700 against Rs. 5,63,700, though the aggregate April to November, 1952, was Rs. 33,27,900 against Rs. 37,54,000 last year.

## Electrification in the Belgian Congo

THE conversion to electric working of the 58½ miles of railway worked by the Bas Congo-Katanga Company between Jadotville and Tenke on the line from Elisabethville to Port Francqui is a transport milestone because the 50-cycle single-phase system was here adopted for the first time on a main route on wholly economic grounds and with no intention of making comparative tests between different forms of industrial-frequency motive power. An article on another page describes how increasing traffic since the war led to various methods of increasing line capacity being considered. New crossing loops would have brought operating difficulties tending to slow down the flow of traffic. Therefore attention was turned to improved motive power, in which direction the cost and sometimes irregular deliveries of coal and oil fuel were obstacles which led naturally to the decision to use the hydro-electric power available in the country. Comparative costs of d.c. and a.c. were closely analysed in relation to the volume and characteristics of the traffic on the line, and in this comparison the 50-cycle system emerged as the most favourable. Belgian industry is to be congratulated on providing the bulk of the fixed equipment and motive power, thereby making an individual contribution to the sum of experience so necessary for the further 50-cycle development.

## Southampton Docks

THE Southern Region Lecture & Debating Society is a very vigorous organisation which is deservedly well supported by the principal officers of the Region. It has a high reputation for the standard of the contributions of papers, films, talks and so forth that it secures for its members and also for the personalities who present them, and attend the proceedings. The President is Mr. C. P. Hopkins, Chief Regional Officer, who has always taken a keen personal interest in societies of this kind, and accords his full support. On Tuesday last, when Mr. R. P. Biddle, the Docks & Marine Manager, came from Southampton to show a film of and give an informal talk on the docks with which he has been so long and closely associated, the audience included Mr. John Elliot, Chairman of the Railway Executive and formerly Chief Regional Officer of the Southern Region, and Major-General Gilbert Szlumper, a former General Manager of the old Southern Railway. They were assured of an entertaining evening, for Mr. Biddle has a well-known fund of good-humoured reminiscences and is an adroit speaker. He was at his best on a subject he knows so well, but he modestly made no mention of the great contribution which he has made to the success of Southampton Docks.

## Standard Tank Engines for India

ELSEWHERE in this issue are described and illustrated the broad-gauge standard tank locomotives recently completed at the works of the Vulcan Foundry Limited for the Indian Government Railways. A feature of the design of these locomotives is the degree of interchangeability obtained between the " W " class series which comprise five different types. The duplication of details includes the pony truck, coupled axles, crank pins, and boiler mountings. In the design of the boiler for the locomotives now under construction the inner firebox is of steel instead of copper; otherwise the major features remain as in the original design. Renewable cast-iron liners are fitted to the cylinders and the piston valves of 8 in. dia. are actuated by Walschaerts valve gear. Lubrication is by a Wakefield A.C. type sight-feed hydrostatic lubricator, while the coupled axleboxes, connecting and coupling rod main bearings are provided with Ajax hand-grease lubrication. British Timken roller bearings are fitted to the front truck and hind bogie. Boiler mountings include Gresham & Craven No. 8 live steam injectors, Ross pop safety valves, and two Everlasting blow-off cocks. Stone's electric lighting equipment is provided. The coupled wheels are of SCOA-P design and 71·8 per cent of the adhesive weight is braked by two 21 in. dia. vacuum cylinders positioned between the frames behind the trailing coupled wheels.

## British Railways Locomotive Tests

BULLETIN No. 4, giving the results of tests relating to British Railways standard class " 4," mixed-traffic, 4-6-0 locomotives has recently been published. As in previous tests, to which reference was made in our June 6, 1952, issue, tests were conducted on stationary testing plant, together with controlled road tests using a dynamometer car. The data are presented in two parts, the first defining the relationship between coal as fired, water as drawn from the tender, tractive-effort, and h.p. both as available at the drawbar, these data being directly applicable to the examining of train loadings and schedules with a view to working the locomotives to their maximum efficiency. The data in the second part are concerned mainly with thermal efficiency and provide information on the basis of indicated power covering the boiler and cylinder efficiencies, factors of importance in locomotive design. The stationary tests were carried out on the Swindon locomotive testing plant and the controlled road tests on the Didcot-Filton section of the Western Region. An analysis of previous tests was given in our October 10, 17 and 24, 1952, issues. The bulletin is published by the Railway Executive, 222, Marylebone Road, London, N.W.1, price 10s.

## Frosted Glass

THIS is the season when misty window panes draw a mysterious veil around the occupants of carriages, and there is no hint from the platform of whether those within are of standard six-a-side suburban proportions or unnatur-

ally distended with good living and dubious prosperity. Worse still, it is impossible to be sure if the mistiness proceeds from an active steam heating system, or a competition in glacial extremes between the atmospheres provided by the Railway Executive and the Meteorological Office. Analysis of these phenomena is a question to which operational research might be directed when a satisfactory conclusion has been reached as to how long fifty passengers clinging to a vertical pole can resist moving down an Underground car against the combined pressures of five hundred more surging on top of them and the prayers of the platform staff. For those without scientific training the search for a comfortable compartment is a gamble. The precipitation on the window panes may proceed from a genial warmth inside the carriage. Too often, particularly, for some inscrutable reason, on Monday mornings, a glance at the gaunt, still figures revealed on opening the door shows it to be a faint mist akin to the clouding of a mirror held to a patient's lips in a sickroom that tells of life still present but hanging by a thread.

## Passenger Fares

THE urgency of the financial straits of the British Transport Commission probably was one reason why the new Passenger Charges Scheme, lodged with the Transport Tribunal last Monday, is simply a request for authority to raise certain fares; other factors apart, there was hardly time for consideration of a new basis for passenger charges, though an alteration in their basis, as in the adoption of a tapering scale based on distance, had been suggested in many quarters as a possible feature of the new Scheme. Details of the new proposals, with the explanations by Lord Latham, Chairman of the London Transport Executive, and by Mr. David Blee, Member of the Railway Executive for commercial matters, why and how £6½ million a year additional revenue must be secured, and quickly, by the Commission, are given on another page.

One criticism of the previous Charges Scheme and indeed of the methods of charging previously adopted by the Commission was of the arrogation to itself by the B.T.C. of the right to fix fares and, in consequence, of interpreting its actions to the public, whilst British Railways and London Transport, which provide the services and have the staff best qualified in matters of charging for the means of transport concerned, have neither fixed the fares nor had the opportunity of explaining the action taken. This time, the announcement of the lodging of the Scheme, and full explanations of its details and of the circumstances which necessitated increasing passenger revenue, have been given by the Chairman of one and a Member of the other Executive concerned. The previous elucidation of action taken to raise fares was criticised as unimaginative and laconic, and it certainly contributed to the bitterness with which the fares increases, somewhat unjustly, perhaps, were greeted last year, which eventually caused the Government to veto certain increases. Both the London Transport and the Railway Executives, apart from such merits as the Scheme possesses, are to be congratulated on good public relations work. Nevertheless, with the present constitution of nationalised transport, much responsibility inevitably rests with the Commission; only a co-ordinating body in the position of the B.T.C. could have determined the fine adjustment of the fares burden between the London Transport and Railway Executives; and obviously the new costings organisation of the B.T.C., albeit staffed by former railwaymen and London Transport personnel, played an important part.

Speculating on the probable content of the new Scheme last week we suggested that some carefully chosen increases were inevitable in the cost of travel to work, and that public opinion in and around London and in the provinces would demand what it considered a fairer sharing of the burden of fares—a demand which the conflicting interests make it almost impossible to satisfy. In fact, the Scheme is largely confined to increasing the cost of travel to work both in the highly populated London Area and in the provinces, though most London fares are to be raised. Very great care is said to have been taken in allocating the increases between the London Area and the rest of Great Britain, and between British Railways and London Transport; regard was paid not only to fair treatment of the respective travelling publics, to public opinion, and to the danger of inflation resulting from a demand for wage increases caused by too steep a rise in the cost of travel to work, but also to the financial positions of both Executives concerned in the light of the statutory obligation on the Commission as far as possible to pay its way, and more particularly to the question of meeting direct and, in the case of British Railways, joint (with freight) costs.

The travelling public in the London Area is to be asked to contribute £6,000,000 more a year, and the provincial £500,000. This request will not be popular with the London public. In view of the extent to which London Transport passenger services were subsidised from B.T.C. general funds in 1951 and 1952, as explained by Lord Latham in a letter to *The Times* discussed in our issue of November 14 last, it is unfortunate that British Railways, which are paying their way, should be asked to subsidise a transport activity that does not, even on grounds of equity for the travelling public concerned. A point which emerges from Lord Latham's statement is the magnitude of the business in short journeys on London buses and to a lesser extent, the Underground. The treatment by the present Government and its predecessors of a nationalised transport undertaking is shown by Lord Latham to have been strange in one respect: three successive increases in fuel duty by three successive Governments—which gravely affected not only London Transport, but the B.T.C. provincial and Scottish bus undertakings, British Road Services and British Railways—are inconsistent with the Government intervention in proposed fare increases last year and general reluctance to give the Commission a free hand in the matter of its charges.

If the allocation of the £6½ million expected from the increased fares is just and practicable, it still may be asked whether other fares could have been selected. Having regard to the larger share of London Transport, nothing else probably could have been done on British Railways. As Mr. Blee has pointed out the Railway Executive will seek every means of developing its cheap fare business, for which it is left wide freedom by the current Scheme. Had the share of British Railways been larger, passenger charges outside London might have been raised other than the early morning and season tickets selected partly on grounds of equity in relation to London Area fares. Both the £6,000,000 additional expected from the London Area and the £500,000 from the provinces are to be collected with minimum hardship to any section of transport users. With the present level of wages and the prices of many consumer goods, neither an odd penny on a bus or Underground fare, nor two shillings a month on a season ticket, is a hardship.

Meanwhile the London passenger buys transport at prices relatively much lower, compared with prewar, than most other commodities, as Lord Latham shows: even after the proposed increases, London Transport fares will only be 84 per cent above prewar. It is heartening to see how far both British Railways and London Transport are striving for, and have achieved, economies in operating. The Railway Executive hopes this year to add £1,300,000 to the £15,000,000 a year saved by economies since nationalisation without deterioration in services. The Commission and its Executives clearly are making strenuous efforts to charge as low as is consistent with the undertaking paying its way. Unfortunately the margin with each increase in revenue is small; no account is taken of contingencies and rising replacement costs; and the machinery for reviewing increases in charges remains cumbrous. It is to be hoped that the Passenger Charges Scheme, 1953, will be dealt with before the Transport Tribunal with the minimum of profitless and vexatious objections, so that the Scheme can realise its object before further rises in costs compel a further search for increased revenue, and before the economic storms that may follow passage of the Transport Bill.

XUM

## An Ever-Present Problem

THE vast amount of traffic carried with great immunity from accident year after year by our railways shows what can be achieved by the use of well designed and soundly constructed equipment, operated with the aid of carefully thought-out rules, the product of long practical experience. To obtain this result great reliance has necessarily to be placed on both the machine and the man, for apart from the effect of forces beyond human control, it is their continuous interaction, sometimes one, sometimes the other exerting the predominating influence, which decides the course of events. At first what has come to be called the human element exercised the greater rôle and few mechanical aids were available to counteract the effect of mistakes or carelessness. Gradually, however, the situation changed until today on certain sections of route chance of error on the part of the operating staff is virtually excluded and the risk to the passenger can be said to be infinitesimal, while even elsewhere it is ordinarily extremely small.

When the first suggestions were made for countering by mechanical means the tendency to make mistakes, some thought that such a process would bring its own risks, as there would be a tendency for men to place their trust in apparatus and become less self-reliant. They feared that if the apparatus itself were not kept in perfect order, there would come a time when it would be thought to be defective when in fact it was providing the intended safeguard, and some ill-considered action might result in an accident. Although circumstances made it inevitable that more and more mechanism should be introduced to aid the man, a truth of permanent application was contained in the misgivings of these pioneers, for unless mechanism is properly designed, installed, and maintained it does carry with it its own sources of mishap, to which not a few accidents have borne witness. While it was principally in connection with signalling and point operation that these fears were voiced, actually they represented certain fundamental considerations that have applied ever since to all branches of railway working. Track, structures, locomotives and rolling stock all contain numberless points at which trouble can originate through lack of knowledge or experience, or failure to exercise adequate care.

Happily this situation arises relatively infrequently but the risk of it has been emphasised unpleasantly of late by certain accidents, the subject of official reports, more particularly by the fatal derailment at Weedon on September 21, 1951, and the less serious one at Blea Moor on April 18, 1952, the latter caused by a hanging brake gear rod on the tender of the leading engine of a double-headed train fouling a facing point mechanism and opening the closed point tongue in front of the train engine. Great damage resulted, but fortunately there were no fatalities. Colonel D. McMullen, who had charge of the inquiry, has been obliged to conclude, following his examination of other engines at the shed, that "insufficient attention has been paid over a considerable period to the examination of engine brake gear" and has felt unable to accept the contention of certain fitters regarding the condition of the equipment. Instancing other accidents caused by engines running in an unsafe condition, he observes that "if the safety of the travelling public is to be ensured, locomotives must be efficiently maintained and this requires the work of examination and repair to be continuously supervised;" while "the fact that engines are used so much more intensively nowadays makes the question of close supervision specially important." In an appendix he gives details of a case which occurred at Crewkerne since his report was concluded where some detached brake gear tore up a piece of guard rail which was projected through the floor and some compartments of a coach, with serious consequences. In this case unsatisfactory design was the main cause of the failure and an accumulation of dirt rendered inspection difficult.

While defects of design, when revealed by experience, can be remedied in new work or renewals, safety still must rest in the last resort on competent regular inspection of engines—or any other equipment—being faithfully carried out and as painstakingly checked. The problem is complex, involving considerations of the right kinds of training, the selection of suitable types of men in the face of the competitive attractions of general industry, and the provision of adequate guidance from foremen, and those placed in authority over them. The railways have had to face great difficulties in these matters of late years, and of these the shortage of men in some departments has been not the least. Considerable efforts have been made, however, towards elaborating better systems of instruction and providing the means of putting them into operation, at least for some classes of work. Some details of locomotive maintenance procedure have been given by the Railway Executive in a statement published on another page.

No matter how perfect our equipment, of whatever kind, may be it cannot function as it should without the men who must work it and look after it, in various capacities. Often this means, in these times of increasing mechanisation and automaticity, that responsibility has merely been shifted from one grade to another whose tasks are different but need to be as intelligently and conscientiously performed as were those of the men whose functions such changes may have replaced. While the honest mistake, even though followed by regrettable consequences, is ever pardonable, real negligence is not, and its elimination from every branch of our railway service is indispensable to the maintenance of that standard of safety of which we have had so much reason to be proud.

Of course, British Railways will as usual give the most careful consideration to the report on the Blea Moor accident. The instructions regarding the inspection of locomotives—already precise as to nature, frequency and location of such examinations—were re-emphasised after it, while in the case of locomotives of the type involved at Crewkerne, the design has been suitably amended. All such cases need to be viewed in perspective to the whole, for there are over 19,000 locomotives on British Railways, which cover about 540 million miles annually. That their efficiency is actually increasing is shown by the fact that they have run, on an average, 32,183 miles without a casualty, compared with the 1949 figure of 15,845 miles.

## Improving East African Transport

WHEN the question of increasing the transport capacity of the East African Railways & Harbours was discussed recently by the Transport Advisory Council in Nairobi it was disclosed that locomotives and rolling stock costing more than £19,000,000 were on order. This expenditure covers the purchase of 201 locomotives of all types, from diesel shunting to main line, including the heaviest Beyer-Garratt locomotives designed for the metre-gauge. The Beyer-Garratts will be used on the Mombasa-Nairobi-Nakuru section and will help greatly in the movement of increased tonnages from the port of Mombasa. Passenger stock on order totals 267 and freight stock, 2,941 vehicles. The additional freight stock will provide 36 per cent more carrying capacity than existing stock. Delivery of most of this rolling stock will not begin until late 1953 and early 1954, although it was noted that much of it had been on order for one year and some for two or more years.

The Council also discussed the draft estimates of revenue and expenditure for 1953, which it recommended for submission to the January meeting of the Central Assembly. These provide for a revenue income of over £16,000,000, and a work and equipment programme of £50,000,000, including more than £7,000,000 for the port services. Specific recommendations were made for new works and equipment to a total cost of £1,400,000 of which £1,000,000 represents additional costs, mostly on works already in hand. New works recommended include sidings for industrial areas at Dar es Salaam, Arusha, and Morogoro, facilities for washing cattle wagons at Dar es Salaam, provision of port facilities at Mohoru Bay, additional lighterage at the sea ports, additional cranes at Mombasa and Tanga ports, improvements to water supplies, additional housing, and a dockyard at Mombasa for the maintenance of the Administration's craft.

## Modern Swiss Bridgework Practice

AMONG the problems arising from the rapid extension of welding in bridge girder work are modifications in the general design, the most suitable type of steel, the form, location, and design of the actual welds, and measures to reduce stresses. One way in which these problems have been solved is to be found in the new continuous plate-girder spans of the Tannwald bridge carrying the Olten-Sissach section of the Swiss Federal Railways over the River Aar at Olten. The regirdering of this bridge is described in an article in this issue.

In consideration of the effects of welding throughout these long main girders, special attention was paid by the designers to the quality of the steel to be used, and to the effects likely to be produced by the multi-axial locked-up internal stresses set up by the welding. Most of the cracks occurring in welded work are unaccompanied by deformation at the boundaries, and originate in the hardened zones caused by the thermal action of the weld. It is recognised that a state of tension in several directions tends to make the material brittle, and an unusually ductile basic steel is considered desirable by Swiss engineers to meet such cases, and one which will retain its ductility in service at relatively low temperatures.

As the article explains, a special steel was selected for the new girders, a mild steel made more ductile by the addition of aluminium, C. 0·13 per cent, S. 0·05 per cent, and P. 0·05 per cent. But whereas this steel was considered suitable for the parts of the girders subjected only to moderate stresses, it had to be normalised for the more highly-stressed parts. The electrodes, having mechanical properties similar to those of the parent metal, were of the Oerlikon "Univers W" type; they are said to be inclined to brittleness after long use, but only at −15° C. and lower.

Certain features, though in accordance with most recent Swiss practice but not so far of general application in this country, were introduced in the design to give effect to the following principles:—

(1) Avoidance of rapid changes in the section of the main members at joints, and surface irregularities due to transverse welds and at the ends of longitudinal welds.

(2) Reduction of principal stresses by staggering certain welds, by limiting their size to exact requirements, and by adopting a welding sequence in conformity with the best welding technique.

(3) Provision of stress-relieving gaps and amply-radiused corners in zones of high stress concentration, such as at the junction of vertical stiffener and flange.

As explained in the article, the plate and rack-rail arrangement adopted for securing the bond between the concrete decking and top flange plates is doubtless more adequate than the methods previously used and quite satisfactory. One wonders, however, whether some simpler form of bond ing could be devised, with consequent reduction in welding and material and yet equally effective. Cogent reasons are also given for the interpolation of the Y shoe-angles between the web and flange plates involving an abnormal quantity of welding, and introducing internal surfaces which cannot be inspected in service. To this end, preliminary specimens of the work of all the welders employed on the contract were submitted for examination. Welds were examined by means of X-rays. Incidentally, this method of analysing welds now tends to be discounted for structural work in favour of ultrasonic analysis, which shows up hair cracks not able to be picked out by radiography. The ultrasonic method is, however, not yet standardised practice, but is proving satisfactory in the post-experimental stage.

Before the members had been assembled in the manipulator in the fabricating shop, test pieces consisting of lengths of shoe-angle connected to flange and web were tested at the Swiss Government laboratory, to determine the form of weld to be adopted for fabrication. The tests showed a yield-strength in the longitudinal direction varying between 13 and 15 tons per sq. in., figures considered entirely satisfactory.

In the methods adopted for the design and reconstruction of the Tannwald bridge the Swiss Federal Railways administration has made a considerable contribution to the development of welded fabrication in bridgework, with customary Swiss thoroughness and attention to detail and finish.

## Canadian National Passenger Services

LACK of traffic density is one of the chief reasons why Canadian railways have not copied the example of United States lines and introduced streamline trains. In declaring this in a recent address, Mr. Donald Gordon, Chairman & President of the Canadian National Railways, said that he was not prepared to concede that Canadian trains were, on the average, inferior to American trains and in terms of passenger comfort and convenience he had ample evidence to support the conclusion that the new C.N.R. rolling stock ranked among the best to be found on the American continent. The question of what the public wanted and was willing to pay for was not a simple one to answer. Trial and error to estimate customers' desires and spending habits could be an expensive experience when capital expenditures running into millions of dollars were involved. Tastes changed and the travel market was anything but static.

There was no foundation, said Mr. Gordon, for the myth that Canadian National and Canadian Pacific transcontinental schedules were arranged by "some sinister agreement or regulation imposed on the C.N.R." Their present schedules were determined independently by such considerations as the large number of stops to serve smaller communities, time at stations to handle mail and parcels, connections with other main trains, and avoiding inconvenient middle-of-the-night arrivals and departures at centres of population. There were important practical limitations to the freedom with which major alterations in schedules could be made, but he would not say that they were an insuperable obstacle to change and that the present transcontinental service could not be improved. Economic analysis and circumstances, not tradition or indifference or collusion, provided the basic explanation for the pattern of passenger service.

A "Continental Limited" train represented an investment of over $2,000,000 and on any particular day there were four of them moving in each direction between Montreal and the West Coast. A dining car cost about $190,000; a duplex roomette about $203,000 and a bedroom-buffet-lounge about the same; a day coach cost $131,000, and a parlour car $190,000. Dining cars, Mr. Gordon continued, "feature Waldorf service at steak-house prices." A day coach, to meet its direct costs, should have an average occupancy per mile of at least 50 per cent, and a roomette car one of 80 per cent. This condition was not usually met because of population density in relation to the mileage over which passenger trains operated. Canada had more miles of rail *per capita* than any other country, and the Canadian National had a more than proportionate share of thin traffic lines. The irregular pattern of business—peaks at summer and holiday weekends—and with the need for a small margin for contingencies helped to explain why the user factor was relatively low. Last year, C.N.R. passenger vehicles travelled an average of only 183 miles a day and showed an average occupancy of only thirteen passengers a mile. The problem was how to minimise deficiencies in revenue which had otherwise to be borne by freight consignors. The salvation of the railways had to be sought primarily in improving the efficiency of operations and reducing costs wherever possible, consistent with the aim of attracting more patronage.

The C.N.R. had recently placed orders for 300 passenger vehicles, including 161 day coaches and 102 sleeping cars, involving capital investment of some $50,000,000. They had attempted to steer a middle course between the extremes of lavish appointments and drab utilitarian design. Mr. Gordon believed they had succeeded in economising without skimping, and that the modern standards of comfort and convenience in this new stock would be well received by the public when deliveries began late in 1953.

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# LETTERS TO THE EDITOR

*(The Editor is not responsible for opinions of correspondents)*

## Railway Catering

December 27

SIR,—The annual report of the Pullman Car Co. Ltd., published in your December 26 issue, makes very interesting reading. Yet the dining and restaurant cars of the Hotels Executive are run at a loss. The railways have a fetish for courses of instruction for their staff. I suggest they instigate a "catering course."

Yours faithfully,

J. GLANVILLE

128, Ardgowan Road, S.E.6

## Observance of Signals

December 10

SIR,—As a British Railways engine driver I resent allegations of apathy and indifference to signal indications by enginemen. Although at times lapses on enginemen's part have contributed to accidents, the numerous occasions where alertness on the engine driver's part have avoided accidents and mishaps have never received the same publicity. Such strictures on engine drivers in general as contained in an editorial note in your December 5 issue can have but one result: the undermining of the well-merited confidence which the travelling public places in its engine drivers.

Yours faithfully,

M. DARCY

Motive Power Department, Staveley

[We did not intend any general stricture on drivers as a whole but merely to stress what a number of collisions of late years, we think, have exemplified, that if the driver of a waiting engine can do so he should, for his own sake alone, watch carefully the signals which protect him. Observation makes us feel that this is insufficiently realised by some footplate men. The worst accident in British railway history, that at Gretna in 1915, could have been avoided had any one of the enginemen, brakemen and guards of the three waiting trains seen that the up line signals had been cleared irregularly, and taken action at once.—ED., *R.G.*]

## American Survey of British Transport

January 3

SIR,—In November the Bureau of Railway Economics, Association of American Railroads, published a review of *Nationalised Transport Operations in Great Britain*, dealing for the most part with the British Transport Commission's report and statistics for 1951. The survey, which strikes one as scrupulously fair, compares the 1951 freight and traffic performance of British and U.S.A. railways in two paragraphs, headed "Freight Traffic Performance" and "Passenger Traffic Performance," quoted below:—

British railway freight traffic is reported in long tons (2,240 lb.). They are here translated into short tons 2,000 lb.) and short ton-miles. Carloadings for 1951 totalled 35,496,000, a decrease of one per cent under 1950, while the average load per loaded car was 7·8 tons. This average compares with 33 tons in the United States.

British railways in 1951 originated 318,979,000 revenue tons and accumulated 25,650,008,000 net ton-miles. In the United States, Class I railways originated 1,477 million tons of freight in 1951 (more than 4½ times the volume of British railways) and totalled 646·6 billion ton miles of service (more than 25 times the British railway figure. Average haul per ton was 75·4 miles on British railways, compared with an average haul for United States railroads of 420 miles.

Tons originated on British railways in 1951 increased 1·2 per cent over 1950, compared with an increase of 9·1 per cent on United States railroads. British ton-miles increased 3·5 per cent, and United States ton-miles increased 9·9 per cent.

Coal, coke, and other minerals accounted for 81 per cent of total tons originated by British railways in 1951. In the United States, coal, coke and other products of mines represented 55·5 per cent of total originated tonnage in that year.

Passenger-miles in 1951 amounted to 20,793 million, an increase of 3·1 per cent over 1950. United States railroads performed 34,614 million passenger-miles of service in 1951. This total, 66 per cent greater than the corresponding British total, was an increase of 9 per cent.

British railways carried about twice as many passengers in 1951 as did United States railroads, but the British journey was considerably shorter. For all passenger traffic, the overage British journey was 20·77 miles, compared with an average for the United States of 71·5 miles per railroad.

The outstanding feature of these comparisons is the massive character of freight traffic on the U.S.A. railways. The A.A.R. advertises that they moved over 1,200,000 tons for one mile during every minute of the year and regards that feat as the world's greatest haulage effort.

Yours faithfully,

R. BELL

Frognal, N.W.3

## Operating Fog Services

December 15

SIR,—Mr. B. A. M. Clarke's letter in your December 12 issue opens "The weather of the last few days has shown up a weakness of the Southern Region administration." May I, as a Southern Region motorman, suggest that the weather of the few days in question drew Mr. Clarke's attention, probably for the first time, to the train driver. The fact that he suggests camp beds and fires for train drivers and tries to compare the Southern Region electric services with those of the Eastern Region indicates that his knowledge of operation and the administration of electrical suburban services, in particular, and railway work in general, is nil.

The "Show" does "go on," but, until we have the conditions that prevailed on December 4, 5, 6 and 7, the public is not aware of the fact—and quite rightly so! No real railwayman wants praise and compliments for doing his job—only a little tolerance and understanding when conditions are bad.

When a man undertakes to become a driver, he accepts the fact that he is giving up 70 per cent of normal home and social life, and will work on public holidays, at weekends and at Christmas time. The fact that he is not overpaid and does not receive a pension at the end of nearly 50 years of service is of secondary consideration. The driver does his job because he enjoys doing it.

Yours faithfully,

FRED BAILEY

90, London Road, Mitcham

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COMBINED MOTORCOACH AND AIR TRAVEL.—A scheme for travel by express motorcoach from the East Midlands to Blackpool, and thence by air to the Isle of Man, was introduced by East Midland Motor Services Limited during the past summer. Mr. J. W. Womar, Chairman of the company, said at the annual general meeting on December 19 that the amount of traffic on these services encouraged hopes of considerable development in the future. Through bookings were made, so that reservations on coach and aircraft were effected at the same time.

# THE SCRAP HEAP

### Paris-Lyons Electrification

To commemorate the inauguration on June 24 last year of electric services between Paris and Lyons, a medal was struck from the copper in the firebox of one of the steam Pacific locomotives that had been working express trains on the line before electrification. We illustrate the two faces of the medal, which has been presented to us on behalf of the French National Railways by Monsieur C. M. Hannoyer, General Manager of French Railways Limited in London. The inscription, quoted from the words of Edouard Herriot, emphasises the rôle of hydro-electric power in making possible the achievements of this noteworthy electrification. It reads: "Yesterday free and turbulent; today tamed but not quelled, the Rhone contributes proudly to the triumph of the iron road and the progress of humanity."

*Medal struck to commemorate electrification from Paris to Lyons*

### Peace Express

The New China News Agency has reported that a "luxurious peace express" is now running between Peking and Manchouli, Manchuria. On the interior doors a dove is represented and at the end of the train are two silver characters signifying peace.

### Multum in Parvo

In the Isle of Wight people are properly proud that their tiny, seagirt domain was at one time blessed with five separate and distinct railways. The senior members of the "Spit and Lean" Club on Yarmouth quay still talk of the day when the first train for the Newport-Freshwater line, its engine and coaches gleaming with new paint, came across the sunny waters of the Solent. This little line is still a byway in Arcady with the names of its stations for a magic incantation.—*From a letter to "The Times."*

[There were never more than three railways—excluding the Ryde Pier tramway—operating with their own rolling stock at any one time. At Grouping in 1923, there were five railway undertakings: the Isle of Wight, Isle of Wight Central, and Freshwater, Yarmouth & Newport Railways, each with its own locomotives and rolling stock; the L.B.S.C. and L.S.W.R. lines at Ryde; and the L.S.W.R. depot at Yarmouth Pier. The F.Y.N.R. was opened in 1888-89—Ed., *R.G.*]

### George Hudson Speaks

Our correspondence columns of December 19, 1952, seem to have evoked a supernatural reaction. A reader who claims to have been in a state of clairvoyance has sent us the following transcription of a communication then received:—"Sir,—I rise from the grave to answer the letter of Mr. Collins of Luffenham in your December 19 issue, echoes of which have crossed the Styx. Sir, it surpasses comprehension that one should dare to suggest that the North Eastern Railway might be reduced to Divisional status and permanently merged with the "sparsely populated" Eastern Region (presumably also to be reduced to Divisional status, and what would Liverpool Street think of that?). Is Sheffield sparsely populated or London's eastern outsprawl void of traffic?

"Sir, the North Eastern guards the cradle of world railways and has not forgotten how to run them (see *B.T.C. Statistics*). North Eastern men seek no revival in truncated form of that abortion of the 'twenties, the L.N.E.R. Let the Eastern Region sink or swim on its own; it's big enough. The North Eastern can stand alone and bear comparison with any Region in the country including the London Midland (a development of my North Midland).

"Much has been heard in recent years of the Great Western tradition, but compared with the North Eastern, the G.W.R. is a parvenu. Their first decent locomotive the *North Star* came from Newcastle-upon-Tyne. Where else but in the North East will you find a railway bridge (the Tanfield Arch) built in 1725 and still standing?

"No, let the N.E.R. remain separate and free. As for those others whether at Luffenham or elsewhere who wish to learn how railways should be run, why, Sir, as I have always said, 'Let 'em come to York'."

Sir, your obedient servant,
GEORGE HUDSON

### Joining the Guards

For almost a minute yesterday [December 30] four-year-old Prince Charles became stationmaster of the wayside halt at Wolferton which serves Sandringham House. With his sister, Princess Anne, he had been taken to see the Duchess of Kent off on the 11.23 to London. "Can I do that?" asked Prince Charles as the stationmaster raised the whistle to his lips. He was handed whistle and green flag. He blew a loud single blast on the whistle and waved the flag.—*From the "Daily Mail."*

### Thanks for the Memory

*A cartoon by Geoffrey Evans from the "South Wales Echo" recalls an episode of* 1952 *in the local train services*

# OVERSEAS RAILWAY AFFAIRS

*(From our correspondents)*

## VICTORIA

### Steel Containers for Freight

To gain additional popularity for inter-State freight services the Victorian Railways have introduced a steel container freight service in each direction between Melbourne and Sydney. The first of 200 containers, each with a capacity of 5½ tons, are now in service, and others will soon appear at the rate of about 10 a week. They are owned jointly by the Victorian and the New South Wales Railways.

## EAST AFRICA

### New Stations

Two new stations opened recently are Manjewa between Maji ya Chumvi and Samburu on the Mombasa-Nairobi section, and Seta between Kawolo and Mukono in Uganda. Manjewa (" place of white birds ") is the second of twelve additional crossing stations to be opened between Mombasa and Nairobi to give increased line capacity.

### New Locomotives in Service

Six " 26 " class Mikado locomotives are now in service on the Tanganyika Central Line, based on Tabora. All 20 of the " 29 " class engines ordered for the Kenya & Uganda section are now in operation.

### Works at Nakuru

The work now being undertaken at Nakuru includes the resiting of the locomotive shed and yard, provision of a new goods shed and yard, enlargement of the main marshalling yard and the erection of new station buildings and district offices. It was estimated in 1948 to cost £192,000. In 1951, with modifications, the estimate was £308,000. Now, with further revisions, including increased clearances in the yard to allow the recently-ordered " 59 " class Beyer Garratt locomotives to operate, the cost is put at £520,000.

Much of the increased cost is attributable to the heavy rise in the price of track material. For example, since 1951 the cost of 80 lb. track has more than doubled, from 27s. to 56s. a foot.

## CANADA

### Montreal Central Station

Completion of extensions at Montreal Central Station has brought the number of tracks to 18. The work involved demolition of the old Lagauchetière Street Station, erection of a new section of the viaduct and a steel span across St. Antoine Street, and intricate permanent way alterations.

## UNITED STATES

### Services to Florida

The " City of Miami " of the Illinois Central now operates to Florida from both Chicago and St. Louis on two out of three days instead of every third day as formerly. This train celebrated the completion of twelve years of operation on December 18. It has grown from a single train of six coaches in 1940 to twin trains of 15 coaches each. Leaving Chicago each train is made up of five Pullman cars four day coaches, two 48-seat dining cars, a sleeper-bar-lounge, an observation-tavern-lounge and a baggage dormitory car. A through Pullman from St. Louis is attached at Carbondale. Southbound, the " City of Miami " leaves Chicago at 8.10 a.m., and St. Louis at 9.06 a.m., and arrives at Miami 3.40 p.m., the next day. Northbound it leaves Miami at 5.40 p.m., reaches St. Louis at 9.40 p.m., and Chicago at 10.55 p.m., the next day.

The services of a stewardess who is a registered nurse, and a passenger agent are available to travellers on the train. Southbound reservations may be made for either coach or Pullman accommodations for the entire winter season. Service to the Florida West Coast by the Illinois Central " Seminole " was begun on December 1. Through Pullman cars operate on alternate days from Chicago and St. Louis to St. Petersburg, Sarasota and Tampa. This train also provides daily through Pullman service from Chicago and St. Louis to Birmingham and Jacksonville.

## ITALY

### Winter Assistance Surcharge

A surcharge on all transport fares intended as a contribution by the travelling public towards the cost of the winter assistance granted to the poor will be applied on eight Sundays from January 11 to April 19. It varies according to the distance covered. On the railways, the surcharge begins with a minimum of 10 lire (approximately 1½d.) for distances up to 200 km. (124 miles) ending with a maximum of 200 lire (about 2s. 3d.) for distances beyond 2,000 km. (1,240 miles). Holders of season tickets are required to pay the surcharge in accordance with the distance actually covered on the Sundays concerned.

## FRANCE

### Capital Authorisation for 1953

The S.N.C.F. will be permitted to spend during 1953, fr.18,764 million (£18,764,000) on new capital works of which £11,400,000 will be earmarked for electrification, and a further fr.18,686 million (£18,686,000) on reconstruction; in addition, fr.9,400 million £9,400,000) will be used to repay bank loans contracted in earlier years. This makes a total of approximately fr.46,900 million which will be raised as follows: fr.1,200 million out of revenue, fr. 15,700 million from a State credit and fr.30,000 million from loans guaranteed by the State.

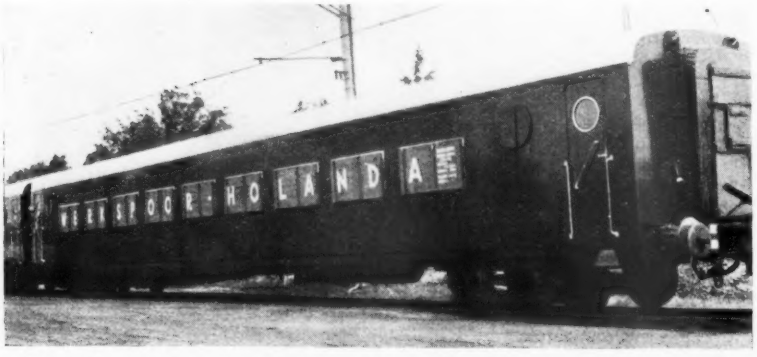
### Conveyance of Exceptional Load

The S.N.C.F. recently conveyed by rail from Lille to Dunkirk a petrol distillation tower 125 ft. long, with a diameter of 11 ft. 4 in. and weighing 57½ *tonnes*. The load was supported at each end on eight-wheel bogies from a demounted SSY type wagon, and the tower itself formed the body of the wagon. The load, specially timed, moved off from Lille at night and arrived at Dunkirk the following morning without incident. The success of this first effort is likely to lead to further traffic of the same nature.

### Railway Museum

Since September, 1947, the motive power depot at Sézanne in the Eastern Région has been the home of Crampton locomotive No. 80, which, with its four-coach train of the last century, has been touring exhibitions under its own

### Dutch-built Stock for Argentina




*All-metal coach for the Argentine railways constructed by Werkspoor N.V.*
*(See our November 14, 1952, issue)*

steam. Since that time other old rolling stock has been sent to Sézanne for stabling, including 0-8-0 locomotive A 540 built in 1866 and modified in 1887. The idea has recently been mooted of setting up a railway museum at Paris and forming a central collection of old rolling stock, but there is, at present, no evidence of this policy being adopted officially.

### European Transport Conference

A European transport conference is to be held in Paris on January 29, 30, and 31 to consider various rail, road, and water transport problems. Monsieur André Morice, Minister of Public Works & Transport, who proposed the conference, has received favourable replies from the countries concerned. The Minister on December 10 made a report to the Cabinet on the progress of his negotiations with the transport ministers of Western Europe and especially of his talks at Vienna with the Austrian Minister of Transport.

With the coming into force of the European coal and steel treaties, the French Parliament has voted in favour of improvements in railways and canals serving the French steel-producing area to cut down transport costs. *Le Monde* points out that the S.N.C.F. has prepared a four-year plan giving priority to lines serving the Lorraine industrial region. Under this plan the Valenciennes-Thionville electrification line is to be extended to Strasbourg and Dunkirk.

In Lorraine, however, the problem also concerns foreign lines bringing coke from the Ruhr or carrying exported French products to North Sea ports. This traffic is handicapped by inadequate equipment of the lines concerned. Modernisation would enable tariffs to be lowered without financial loss. It is thought that application of French National Railways standards of equipment and maintenance to the Thionville-Koblenz line would lower the transport cost of coal from fr. 2,200 to 1,000 a ton.

### Christmas Railway Traffic

The number of main line trains leaving Paris termini on December 24 and 25 was 846 (603 regular and 243 supplementary trains). In the evening of December 23, 40 *rapide* and express trains left the Gare de Lyon. There was a slight increase over Christmas, 1951, in the number of travellers to French and foreign winter sports resorts, but in other directions there were fewer passengers. The total number leaving Paris by rail between December 20 and 24 was 486,546, compared with 525,433 in 1951.

## NETHERLANDS

### Arnhem-Zutphen Electrification

Electric traction over the Arnhem-Zutphen line was inaugurated on January 5. The two-hourly service of passenger trains between Nijmegen and Zwolle *via* Arnhem and Zutphen, hitherto steam-worked throughout, is worked by electric locomotives between Nijmegen and Zutphen, where engines are changed. The two-hourly service between Nijmegen and Hengelo, also by way of Arnhem and Zutphen, continues to be worked by diesel-electric train sets.

## Publications Received

*The A B C of Railway Photography*. By O. J. Morris, Hampton Court, Middx.: Ian Allan, Ltd., Craven House. 8¼ in. × 5½ in. 33 pp. Paper covers. Price 3s. net.—Mr. Morris is at once an exceptionally informative and an entertaining guide for the railway photographer. He has chosen his illustrations to show faults as well as successful achievement, in exposure, developing, lighting, and vantage point. Many will be encouraged to take up train photography by his comment that very few even of the fastest trains need an exposure as short as one-thousandth of a second, and his demonstrations of what can be done with a simple camera having a three-speed shutter. Thus inspired, the reader proceeds to learn of the many things that can go wrong in this fascinating pursuit, and to appreciate that for success he must become a good tactician, even choosing cloudy days when lineside obstacles and the direction of train and track make it impossible to avoid shooting into the sun.

*The Stratford-upon-Avon & Midland Junction Railway*. By J. M. Dunn. The Oakwood Library of Railway History, No. 10. The Oakwood Press, Tanglewood, South Godstone, Surrey. 7¼ in. × 5 in. 30 pp. Illustrated. Paper covers. Price 5s. net.—It is not necessary to master the tangled genealogy of this railway to enjoy Mr. Dunn's account of it. A number of undertakings with important-sounding titles were involved in schemes for transporting iron ore from Northamptonshire to South Wales, but the ore came in from Spain by sea instead and all these enterprises achieved was a straggling single track across Northamptonshire and Warwickshire that showed remarkable tenacity of life through two world wars, and railway grouping, but failed to survive more than a few years of nationalisation. The railway had its novelties in train services and equipment, which are duly put on record with their dates, but neither the "Shakespeare Specials" of L.N.W.R. days, nor the Blisworth-Stratford expresses and the Ro-Railer of the L.M.S.R., brought a continuing traffic. The story is quietly told, with painstaking attention to significant events in a history undistinguished by sensational incident—shortage of funds was too commonplace to be a crisis. After his historical and topographical treatment of the subject, the author deals with train services, and locomotives. There is a good selection of half-tone illustrations, a map, a drawing of the 0-6-6-0 Fairlie locomotive, and one of a 2-4-0 tank called *Hope*, that would have been qualified by its name to figure in the company's coat of arms.

*Trico Equipment*. A ninth edition of the catalogue giving details of the whole range of equipment manufactured for road transport vehicles and so on has recently been issued by Trico-Folberth Limited. The equipment includes direction indicators, flashing light signals, miscellaneous switches, windscreen washers, service kits, and so on. All fittings are identified by part numbers to assist intending purchasers.

*Wiggin Nickel Alloys*.—The industrial application of Monel, and Nimonic alloys 75, 80, 80A and 90 is given in an illustrated booklet brought out by Henry Wiggin & Co. Ltd. These include among others locomotive boiler stays, crates for pickling vats, gas turbine stator and rotor blades, and combustion chamber flame tubes. Also included, in table form, are the drilling times of Nimonic alloys, and the application of Monel for steam traps, Arkon pressure and vacuum recorders, and Argon arc welding using a Nimonic 75 nozzle.

*Calendars for* 1953.—We acknowledge receipt of calendars from the following: Canadian Pacific Railway Company; the Railway Convalescent Homes; The Butterley Co. Ltd.; Mullard Limited; Zinc Alloy Rust-Proofing Co. Ltd.

*Metrovick Lamps*.—The Metrovick lamp catalogue for the current lighting season lists the whole range of filament, fluorescent, and other discharge types. Useful information in the catalogue includes drawings and dimensions of the various types of lamp caps referred to in the catalogue. Among the ranges listed are traction lamps with pearl or clear bulbs for voltages between 100 and 130, and similar lamps for series burnings at 40 or 50 volts with fusable cutout to permit location of a lamp that has failed and to prevent a failure from putting out the other lamps in series with it.

*Cars and Motorcycles to and from the Continent and Channel Islands*.—The winter edition of British Railways handbook of services, rates and fares contains the usual comprehensive information, including Customs regulations. There is a cutaway drawing of the motorcar carrier ss. *Lord Warden*, which during the winter season is taking sailings on the Dover-Boulogne route. Some useful maps of British and Continental ports illustrate the road approaches to the steamer berths; these were prepared from maps supplied by the A.A. and R.A.C.

# Increasing the Capacity of a Belgian Congo Railway

*Comparative study of alternative methods led to electrification at 50 cycles between Jadotville and Tenke*

RAPID economic development since the war in the province of Katanga led the Bas Congo-Katanga Railway to undertake studies in 1949 of methods for improving its traffic capacity within the limitations imposed by single-line working. Attention was paid first to the Jadotville-Tenke section, but it soon became apparent that it would be essential to consider the whole line from Jadotville to Kolwezi, where traffic had more than doubled in some three years.

Electric traction was inaugurated between Jadotville and Tenke on October 20, 1952 (see also our January 2 and October 31 issues). There were various possible methods of meeting difficulties likely to be created by the rising level of traffic. In the first place, the capacity of the overloaded sections might have been increased by means of additional crossing loops. Another approach would have been to obtain a simultaneous increase in speed and loads. The first solution was abandoned because an increase in the number of crossing loops would have involved working difficulties resulting in a lower overall speed.

The aim of achieving a simultaneous increase in load and speed could have been attained with steam traction by substituting coal firing for a mixture of coal and wood fuel. Unfortunately, the colony is dependent on overseas suppliers for suitable coal and the regularity of deliveries leaves something to be desired, while at the same time the price is seriously increased by transport charges. Similar difficulties would have been met with if diesel traction had been adopted, for transport costs also affect the price of fuel oil.

By means of electrification, on the other hand, similar results could be attained on favourable terms, thanks to the generation and distribution of hydro-electric power by the Union Minière du Haut-Katanga. Accordingly, the railway company approached the Société de Traction et d'Electricité over the question of the type of electric traction to be used. Acting as consulting engineers, the Société de Traction et d'Electricité prepared a comparative study of the advantages and disadvantages of the various possible systems of electric traction when applied to the particular case of operating the company's system, with its rather low traffic density. The systems studied were:—

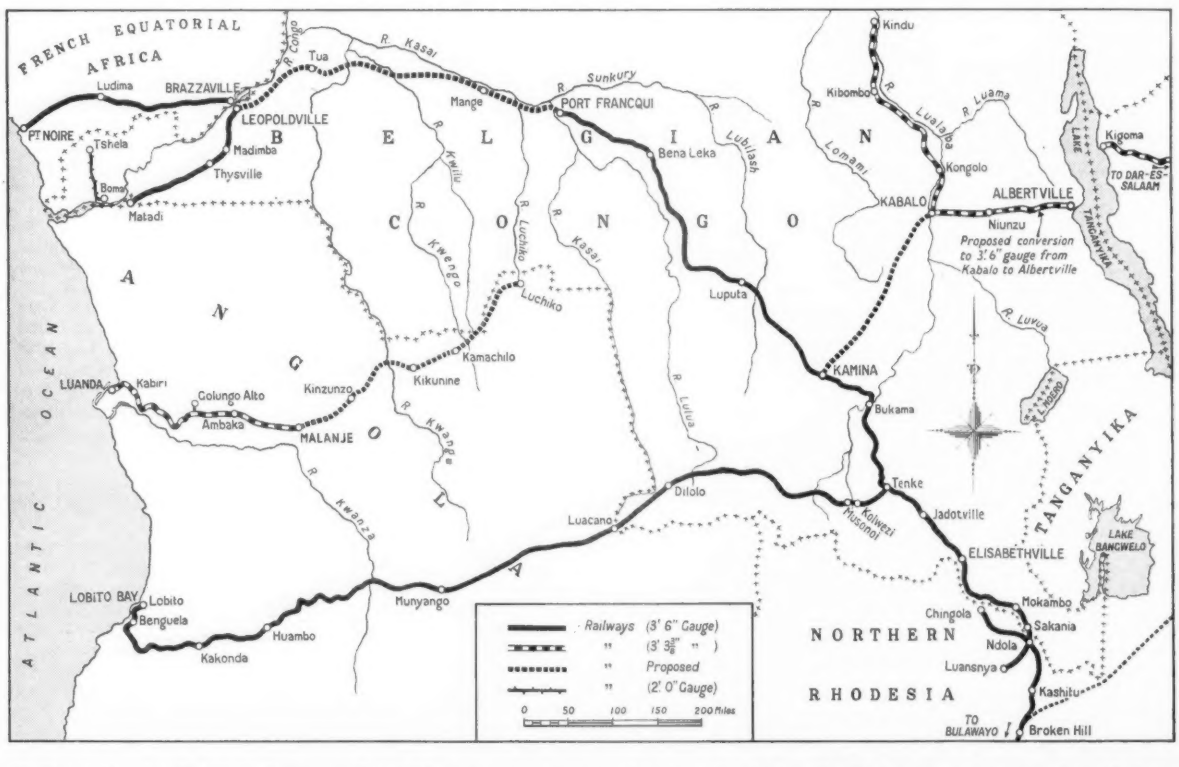
Direct current at 1,500 or 3,000 volts;

Single-phase alternating current, 11-15 kV., 16 2/3 cycles;

Single-phase alternating current, 20-25 kV., 50 cycles.

Electrification at 3,000 V. d.c., a system of proved efficiency, offers numerous advantages. There is no disturbance to the balance of the supply system, and slight interference with adjacent telephone circuits is easily overcome without requiring them to be laid in underground cables. Low rates of acceleration are permissible, enabling heavy loads to be handled. Furthermore, this system involves the lowest maintenance costs for the locomotives and the least current consumption. But whereas this last characteristic is very advantageous as far as direct working costs are concerned, a d.c. system involves higher installation costs than one using a single-phase supply at high voltage.

With working voltages of 1,500 and 3,000, transmission losses and voltage drop make it necessary to use over-




*Railways in the Belgian Congo and neighbouring territories, showing the Jadotville-Tenke section, now electrified at 22 kV., single-phase, 50 cycles, on the line from Elisabethville to Port Francqui*

head conductors of greater cross-section, and a substation spacing of not more than 9 to 12 miles with 1,500 V., or 18 to 25 miles with 3,000 V. On the other hand single-phase traction at 11-15 kV., 16⅔ cycles, does not involve similar limitations, but the use of the non-standard frequency makes it necessary to provide generating plant and a distribution system for 16⅔ cycles, or the equipment of substations with rotary converters which require considerable maintenance and have a low average efficiency.

Single-phase traction at 22 kV., 50 cycles, offers the same advantages as single-phase at 16⅔ cycles so far as substation spacing and light overhead construction are concerned. For example, only two substations are necessary for the first 62 miles of the line as against four with 3,000 V. d.c. Moreover, the direct connection possible with the industrial transmission system greatly simplifies the substation equipment.

However, single-phase systems of any frequency make it necessary to replace overhead telephone circuits alongside the line with cable routes in order to protect them from electrostatic and electromagnetic induction.

The comparative study showed that adoption by the railway of the single-phase 50-cycle system at 22kV. would permit a reduction of about 30 per cent in first costs compared with the two other systems in the particular traffic conditions on which the investigation was based. Moreover, the layout of the electricity grid in Katanga was particularly suitable for connections to the substations on the railway.

The only serious difficulty to be foreseen was unbalancing of the 3-phase system by peak traction loads. However, the relatively low power demand of the railway compared with the load imposed by the industrial installations of the Union Minière du Haut-Katanga, was a feature which reduced misgivings on that account. In addition, the detailed calculations undertaken by the Société de Traction et d'Electricité in collaboration with the technical departments of the Union Minière, showed that the degree of unbalance created even in extreme circumstances would fall well within the permissible limits. With the collaboration of Electricité de France, the accuracy of the conclusions was confirmed by tests carried out on that company's calculating apparatus in Paris.

### Supplies and Motive Power

The line from Jadotville to Tenke is equipped with a simple vertical catenary on straight sections, and with an inclined catenary on curves. A "waved" type of contact wire alignment has been used experimentally on one section of 1¼ miles. The overhead line from Jadotville to Tenke is 65¼ miles long and divided into three sections of 21¾ miles, each of the latter being connected between two different phases of the main grid system. Power is supplied to each section by a single-phase 120/25 kV. transformer of 6,000 kVA. The substation equipment in general consists of transformers and the standard types of protective switchgear. Centralised remote control and metering facilities are provided in a control room at Jadotville.

The locomotive stock consists of eight Bo-Bo units with an axle-load of 18·5 metric tons. They are designed to haul a load of 550 metric tons at 28 m.p.h. up a gradient 1 in 80, and have a 1-hr. rating of 1,680 h.p. Power is collected from the overhead line supply at 22 kV., 50 cycles. In each locomotive a 1,600 kVA. transformer steps the 22 kV. down to 480 volts for feeding the four double-armature type series traction motors, each rated at 2 × 210 h.p. The motors, which are permanently in parallel, are connected to the voltage control tappings on the transformer secondary by means of 16 contactors. Auxiliary services are supplied with 50-cycle single-phase current from a special winding on the transformer.

The electrification was carried out under the supervision of the Société de Traction et d'Electricité, and the widest possible use was made of Belgian firms for the supply and assembly of equipment as well as for carrying out the civil engineering projects on the railway involved by the conversion scheme. Erection of the overhead line, laying of telephone cables, and the building of control points were carried out by the Gomez-l'Electro Entreprise et Entrelco. Control panels and wiring of safety circuits were entrusted to Electricité Industrielle Belge. The Bell Telephone Company supplied the substation remote control equipment.

Traction transformers and high-tension circuit-breakers were supplied by A.C.E.C.; measuring transformers by the Usines Balteau; h.t. isolating switchgear and equipment for feeder circuits by Electricité Industrielle Belge; 25-kV. traction circuit-breakers by Brown-Boveri and 25-kV. isolating switchgear by the Ateliers de Delle.

The electric locomotives were designed and constructed by the Ateliers de Constructions Electriques de Charleroi, in collaboration with the Ateliers Mètallurgiques de Nivelles, the latter being responsible for the mechanical parts.

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MORE DIESELS ON BELFAST-BANGOR LINE.—Three more diesel railcars have left Duncrue Street Workshops to complete the third of the six-car trains operating on the Belfast-Bangor line of the Ulster Transport Authority. A 15-min. service on the line is planned for this year. Four more six-car trains are contemplated, to bring the total fleet up to 42 cars. This will allow the withdrawal of the few steam trains still running to Bangor and could make feasible the proposed extension of the service to the G.N.R.(I.) station in Belfast.

EAST INDIAN RAILWAY ANNUITIES.—At an extraordinary general meeting of the East Indian Railway Company on December 10, the Chairman, Sir William Palin Elderton, said that expenses of winding up the annuities after February, 1953, would be about £9,500 and there was a liability to make certain payments to the staff of about £10,500. Deducting these figures from the present value of the Separate Assets they were left with a figure of a little over £120,000 (the exact figure depending on the value of assets in February next). There were possible liabilities of some £36,000, and the meeting was asked to agree to insurances being effected to cover the possible claims at a premium of not more than £500 so that the £36,000 might be available after February next to the annuitants, together with the accumulations of interest (less expenses)—a total of about £120,000. The date when any annuitant received payment depended to a large extent on his own action, and the sooner he completed and returned the forms the sooner would payment be made. So far as the company was concerned things would be expedited as much as possible. They wanted to get it all cleared up soon after February 14, 1953. The resolution was passed.

MANAGEMENT TRAINING IN THE ENGINEERING INDUSTRY.—The great contribution to productivity in U.S.A. made by training in industrial management and administrative engineering and commented on by the British productivity teams which visited that country, have caused a joint committee of the British Electrical and Allied Manufacturers' Association and the British Engineers' Association to issue a summary of those existing facilities for management training in the U.K. which could be used by the engineering industry. The summary is divided into three sections: (a) Courses for managerial, including technical, staffs; (b) courses for foremen; and (c) courses leading to Intermediate Certificates in management studies. Included in (a) are courses for senior executives such as that held at the Administrative Staff College. Many educational bodies, it is pointed out, are willing to introduce, provided they have the facilities, new courses to meet the specific requirements of industry. This illustrates the importance of the closest co-operation between individual companies and the local educational authorities.

B.E.A. YEAR FREE FROM ACCIDENTS.—British European Airways set up a record for any airline outside the U.S.A. by carrying some 1,341,000 passengers during the calendar year 1952. B.E.A. aircraft flew 357 million passenger-miles without an accident, and traffic rose by 17 per cent compared with 1951. Freight showed a 16 per cent increase rising to 14,000 tons.

O.E.E.C. TRANSPORT CONFERENCE: MARCH 1953.—Representation of Spain and Jugoslavia has been requested for an O.E.E.C. conference starting on March 18 "to seek ways and means of making better use of the existing system of transport by road, rail, and water and of ensuring its rational development." This is the first time that these two countries have been invited to participate in a conference sponsored by O.E.E.C. Canada and the U.S.A. also will be represented.

# Modern Bridging Practice in Switzerland

*Special measures taken in connection with the arc-welding of long continuous spans on the Federal Railways*

THE Sissach-Olten section of the Swiss Federal Railways, known as the old Hauenstein line, crosses the River Aar on the double-line Tannwald Bridge at Olten. The original structure had three spans each consisting of five wrought-iron arch ribs, supported by masonry piers and abutments. It is claimed that this, completed in 1856, was the first railway bridge of this type to have been built. In 1951 the downstream half of the bridge, carrying one of the tracks, was renewed in order to increase the capacity of the line which is to be electrified.

The section forms part of the original main line between Basle and Olten, opened throughout in 1858, and the first double-track line in Switzerland. Right-hand running was in force for many years; the reason, it is said, was so that the downgrade running line between Läufelfingen and Sissach should be on the inside and not near the edge of a drop overlooking the Berglehne Valley. The route between Basle and Olten was considerably shortened by the construction of a more direct line between Sissach and Olten, piercing the eastern extremity of the Jura range by the five-mile Lower Hauenstein Tunnel, opened in 1916.

Apart from slight alterations to their tops, the piers, like the abutments, were retained intact; all four supports are equally spaced 118 ft. apart centre to centre. The new single-line superstructure consists of three continuous welded plate-girder spans, the main girders of which are spaced at 6 ft. 6½ in. centres. They carry a reinforced concrete ballast deck, and, as far as live loading is concerned, this forms part of the supporting structure. Cross-bracings between the main girders are arranged at 19 ft. 8 in intervals.

### Reducing Stresses

To reduce the tensile stresses in the concrete decking caused by shrinkage of the concrete and the negative bending moments over the piers—induced by the continuity of the spans—and to lessen the danger of its tensional fracturing, the tops of the piers have been lowered by 10 cm. (about 4 in.). For the same reason and also for the reinforcement of the main girders, longitudinal reinforcement was introduced in the decking.

In designing the main girders, the various effects of welding were duly considered, and special attention was paid

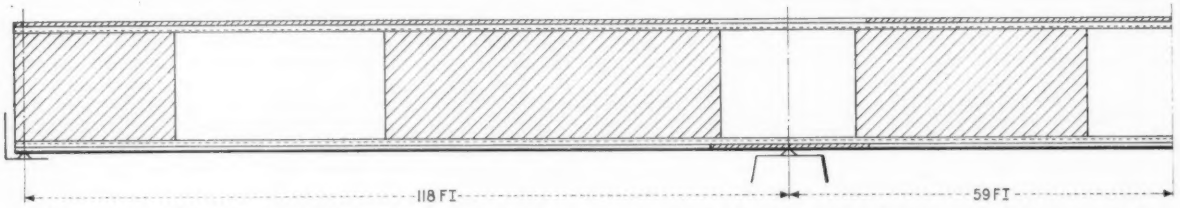
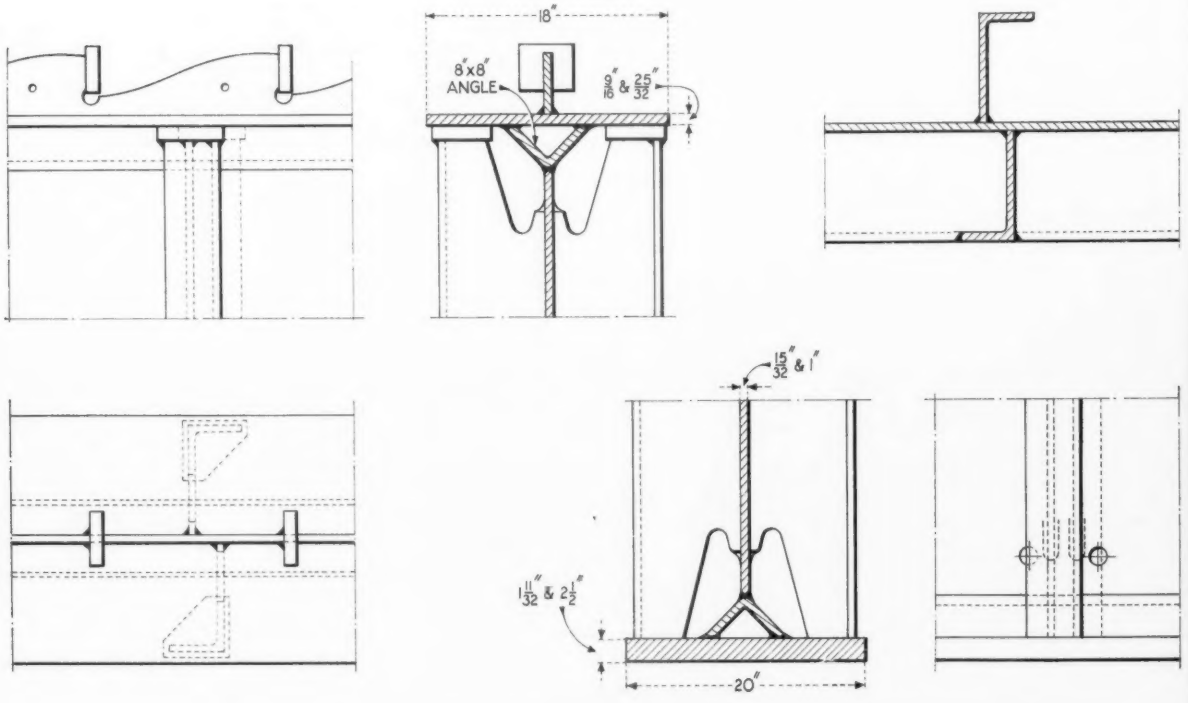
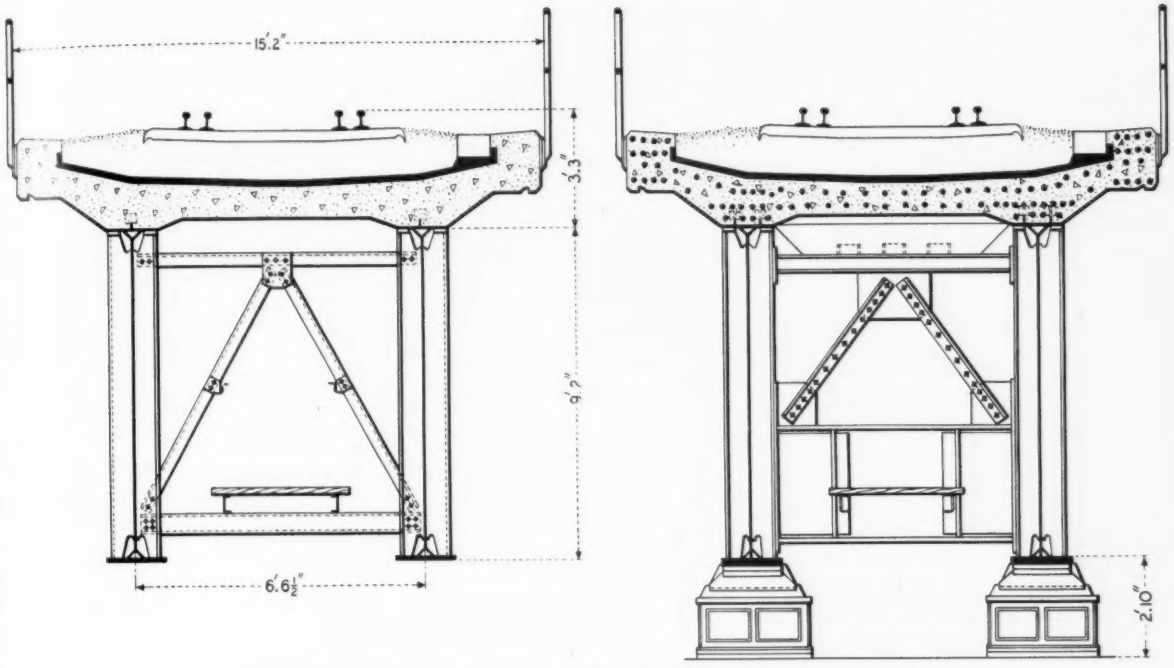



*Diagram showing portions of flanges and web of main girder (a) (hatched) of normalised steel, and (b) (not hatched) not normalised*




*(Left and top centre) Details of rack-rail bonding between main girder upper flange and deck; (Bottom right) V-section shoe-angle connecting web with upper flange (above) and lower flange (below); (Top right) Group of stiffeners*




*Cross section (left) at mid-span and (right) over pier, showing bearings*

to the important part played by the quality of the steel in welded structures. This and other matters of technical interest are discussed editorially in this issue. It may be mentioned, however, that on the advice of M. Schnadt, a consulting engineer who has made a special study of the behaviour of steel under multi-axial stresses at different temperatures, two different qualities of special steel were eventually used for various parts of the superstructure. For the more highly-stressed parts special normalised steel was used, and for others in which more moderate stresses occur, non-normalised but otherwise similar steel was considered suitable. In the design, care was also taken to conform to the latest-approved details in modern welded bridging practice, enumerated in our editorial article.

As a result, a number of novel features has been embodied in the design. For instance, the methods previously used for bonding the reinforced concrete deck to the upper flanges of the main girders had been found to cause large and undesirable secondary stresses in the flanges. Accordingly, in the Tannwald Bridge, an adequate bond is ensured by embedding square bonding plates in the deck in vertical planes transverse to the bridge centre line, and welding them to a kind of rack-rail, in turn attached to the upper flange plate by continuous longitudinal welds. Transverse bars attached to the rack-rail further augment the bond.

To connect the web to the flange plates, 8 in. × 8 in. × ½ in. shoe angles in the form of a V or Y are used as shown in accompanying diagrams. This is claimed to have the following advantages:—

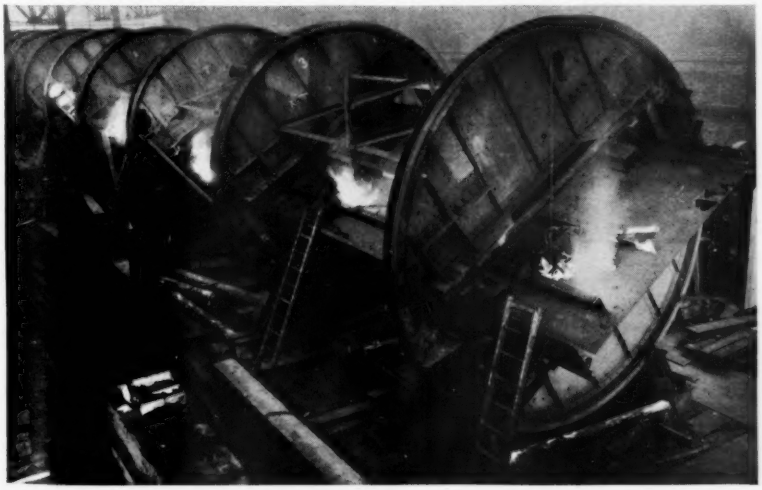
(1) Smooth transition between web and flange.

(2) Reduction of stresses in welds induced by lateral strains in flanges.

(3) Improved attachment of flange plate at two points instead of one.

(4) Mitigation of secondary stresses due to thermal strains by this special form of connection.

(5) Reduction of depth of web-plate and consequently its tendency to buckle.



*Final welding of one of the 138-ft. main girder units in rotatable manipulator having nine circular frames*

### Size of Flanges and Web Plates

The upper and lower flange and the web plates are approximately 18 in., 21 in., and 8 ft. 8 in. wide and deep respectively, and their thicknesses are $\frac{9}{16}$ in., $1\frac{11}{32}$ in., and $\frac{15}{32}$ in., though in the neighbourhood of the piers and abutments they are increased to $\frac{35}{32}$ in., $2\frac{1}{2}$ in., and 1 in. Shop joints in flanges are welded butts, the upper and lower joints being staggered. A 1 in 20 bevel is provided at junctions between plates of different thicknesses. The angle stiffeners used throughout are 8 in. × 4 in. × ½ in. angles, the main stiffeners being spaced 19 ft. 9 in. apart, but intermediate horizontal and vertical stiffeners are also provided to reinforce the web against buckling. The ends of the stiffeners are specially shaped so as to maintain the elasticity of the welds joining the stiffeners to the web. In this way

the stresses perpendicular to the plane of the girders are minimised, thus lessening the danger of fracture. A stress relieving hole is drilled in the web plate at the beginning and end of each stiffener-to-web weld connection.

The vertical angle stiffeners are attached to the web by continuous fillet welds and fit tightly against the lower flange and against fitted packings welded to the upper flange; the beginning of the stiffener-to-web welds was chamfered and ground. Triangular fitted packings were inserted in the hollow space bounded by the lower flange plate and shoe angle at points of support in order to transmit the concentrated loads directly to the web.

Shop fabrication presented no difficulty. The web plates, flange plates and angles of the structure were assembled by tack welding ready for mounting in special jigs, compensation being made for welding distortion.

### Method of Final Welding

Final welding of the component parts was carried out in a rotatable manipulator consisting of nine frames having circular peripheries rigidly connected together so that the whole assembly carrying girder units up to 138 ft. long could be rotated about an axis parallel to the longitudinal axis of the girder unit, thus enabling all main welds to be made downhand.

All the shop joints were welded, but the four main field joints and all bracing connections were riveted. High-grade cast-steel bearings were used, and the decking is of specially good-quality reinforced concrete.

Each of the main girders was shop-fabricated and delivered to site in three sections, about 138 ft., 79 ft., and 138 ft. in length, the depth being 9 ft. 6 in. Some difficulty was experienced in transporting the 138 ft. × 9 ft. 6 in. units from the contractor's works at Brugg to Olten, and the Federal Railways possessed only two special wagons that would accommodate them. Each wagon was able to carry two units at a time, and the pair of wagons was run to Olten as a special train. There the units were transferred singly to diplory trolleys with the aid of one 15-ton and one 14-ton travelling crane. To ensure that the units had sufficient stability during lifting and erection, temporary bracings were fitted to their top flanges.

Traffic was confined to the upstream track, worked as a single line carried on the centre and two upstream ribs of the old structure duly stiffened by temporary bracing. This enabled the Federal Railways engineers to dismantle the two downstream ribs and make way for the new single-line continuous-girder spans.

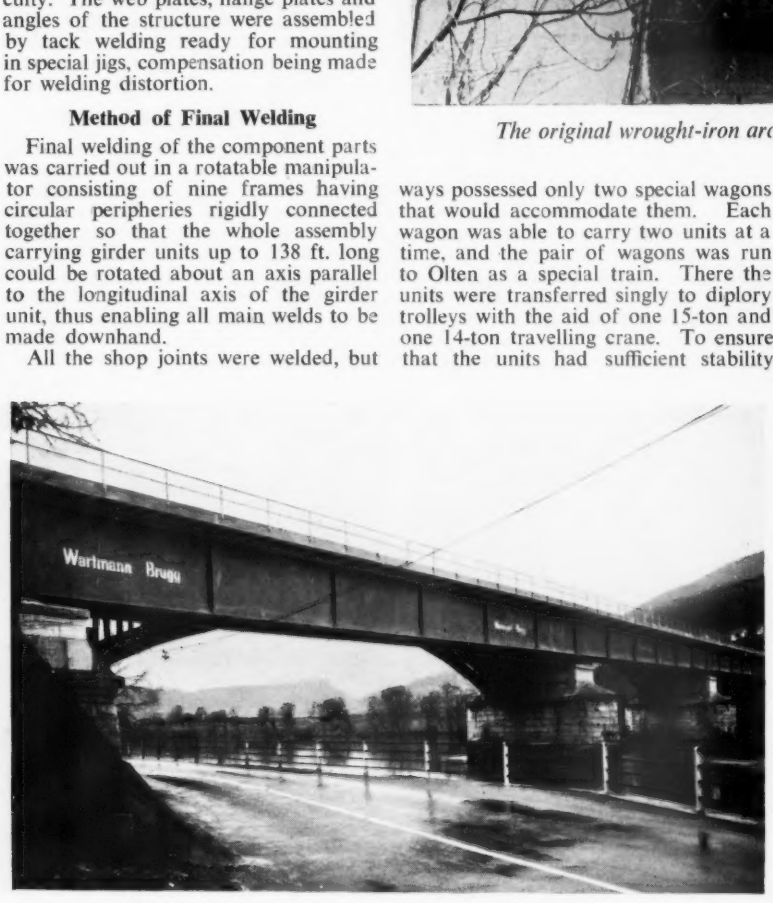
The new superstructure was erected during possessions of the running line between trains. In view of the restricted working space at site and on account of the weakness of the old bridge, it was necessary to plan the erection details with special care.

Each segment or unit of main girder was trained out in turn on the running line on two diplory trolleys and was then placed on traversing beams adjacent to the running line by the two travelling cranes. The diplories were then pushed closer together so that the cranes could move into the most suitable positions for lowering the girder segments on to temporary supports from which they were later slewed into their final positions, where they were riveted to one another, thus enabling the new superstructure to be completed.

*The original wrought-iron arch, double-line Tannwald Bridge*



*One of the new main girders being unloaded at site*




*The new welded steel plate-girder spans in the foreground under one track and the wrought-iron arch spans beyond under the other track*

CLOSING OF L.M.R. GOODS STATIONS.—The London Midland Region announces that Hazelwood, and Idridgehay goods depots, between Duffield and Wirksworth, were closed for all traffic on and from January 5 this year.

# Reconstruction of L.M.R. Engine Sheds

*Skipton motive power depot rebuilt with roof frame constructed of bull-head rails*

THE delays occurring to the heavy programme of engine shed roof reconstruction on the London Midland Region, British Railways, due to the steel situation, made it necessary to adopt some form of construction other than reinforced concrete or new fabricated steelwork. In the case of Skipton motive power depot, the renewal of the old timber-built shed was a matter of particular urgency. Investigations were therefore made with a view to providing a structure which could be easily erected from material readily available with a minimum of plant and labour.

### Design Adapted

It was decided to adapt a design using old rails, a system which had been developed on the Southern Region. The design consists of Warren-type roof trusses constructed from serviceable bull-head rails having bolted connections and spanning between new brick walls. The side walls are provided with ample glazing, the coverings being of continuous glazing in timber bars on one slope alternating with asbestos cement corrugated sheets, supported by bull-head rail purlins secured to the diagonal truss members.

Ventilation is provided by a continuous covered opening at the upper node points of the trusses. This arrangement has proved to be most satisfactory and smoke is quickly dispersed without the use of smoke troughs. The trusses were manufactured by the regional Mechanical & Electrical Engineer at Horwich Works and assembled on site by direct labour. The plans were put in hand in January, 1952, and the twin sheds, 180 ft. and 120 ft. long respectivly by 46 ft. wide, were completely demolished and rebuilt by the middle of September last.

The whole of the work was carried out under the direction of Mr. J. Taylor Thompson, Civil Engineer, London Midland Region.

*Skipton motive power depot in the early stages of reconstruction*

*The completed engine shed, showing the roof structure*

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INSTITUTE OF TRANSPORT, NORTHERN IRELAND SECTION.—A meeting of the Northern Ireland Section of the Institute of Transport was held on December 18, in the Ulster Transport Authority Headquarters, Belfast. Messrs. H. D. Welch and D. Thomason, gave an address on "Transport in the Netherlands." The speakers were members of the Northern Ireland Section who accompanied the Institute of Transport on the visit which was made to the Netherlands last summer.

RECONSTRUCTION OF MALAYAN RAILWAY.—It is reported from Singapore that much progress has been made in the reconstruction of the east coast line in Malaya. Much of its track was taken by the Japanese during the occupation for building the Burma-Siam Railway. Bridges were also removed, and others were bombed by allied aircraft. Malay construction gangs, working from Gua Musang, in Kelantan, have relaid more than 100 miles of track and rebuilt 30 bridges. The railhead is now south of Merapoh. Every length of rail, it is stated, has to be shipped 900 miles from Singapore by way of Kedah, Haadyai, in Siam, and Kelantan, and then by raft and ropeway across rivers and valleys to the railhead.

CONTRIBUTION TO PRICE STABILITY.—After the national wage award of 7s. 4d. a week which became operative throughout the British engineering and allied industries on November 10, David Brown & Sons (Huddersfield) Ltd., parent company of the David Brown Group, circularised approximately 1,800 of its principal customers notifying them that, despite this latest addition to production costs, the company had decided not to increase the prices of its standard products. Announcing this decision, the company stated that an examination of its trading accounts clearly suggested that prices ought to be increased to meet this latest additional cost. However, in view of the adverse trading conditions currently affecting the many vital British industries which used David Brown products, the company considered it a duty to give maximum help towards the solution of these problems. The view had been taken that the correct course to pursue at the present time was not to increase prices of standard products unless compelled to do so by special circumstances. Within a few days of this statement over 100 letters of appreciation and congratulation were received at the Huddersfield works. A particularly gratifying feature of the correspondence was that numerous firms expressed their intention of following the company's lead in stopping the rising spiral of prices.

# Broad-Gauge Locomotives for India

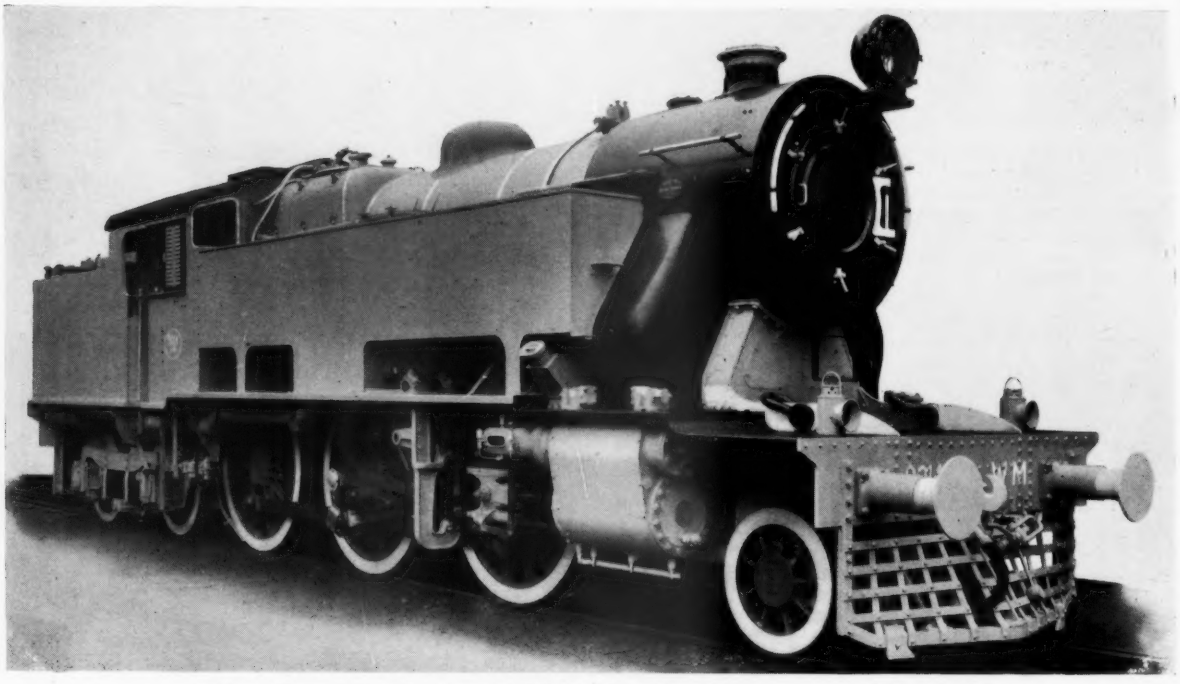
## "WM" class 2-6-4 tank engines to Indian Railways standard design

IN our issue of December 1, 1939, we published an illustrated article dealing with the Indian Railways standard broad-gauge tank engines, 26 of which were being constructed by the Vulcan Foundry Limited. Designated "W" class, the series included "WV," "WL," "WM," "WW," and "WU" class locomotives of the 4-6-2 type with tender, 2-6-4, 2-4-2, and 0-6-2 type side tank engines.

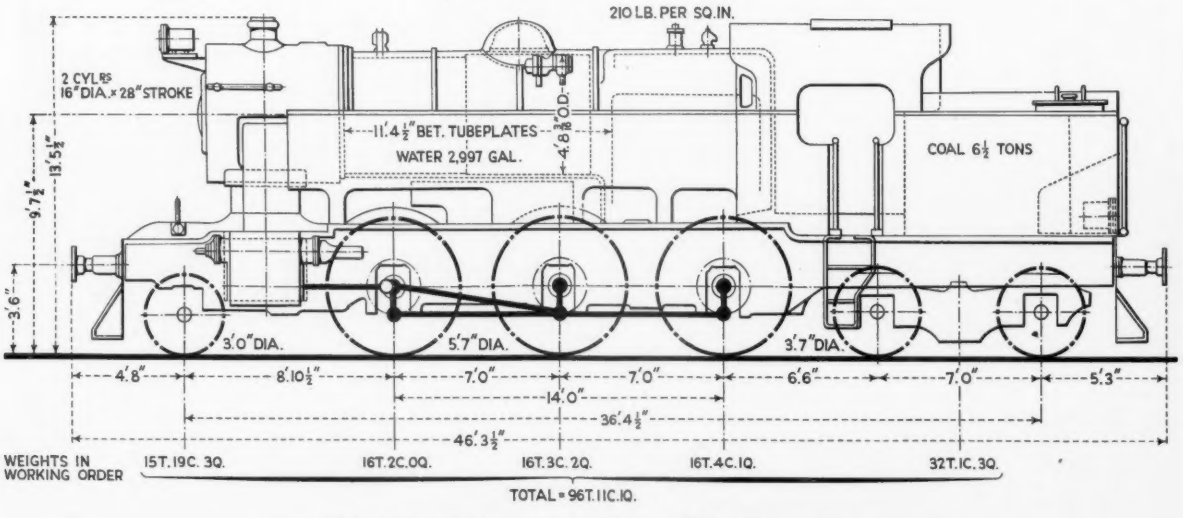
The Vulcan Foundry Limited has recently constructed 30 locomotives of the "WM" class which incorporate all the major features of the original design, with the exception of the inner firebox which has been changed from copper to steel, the consequent saving in weight permitting the thickening of tank and bunker plates.

### Boiler Design

The two-course boiler barrel has a Belpaire type firebox, the all-welded inner firebox being fitted with two arch tubes supporting the firebrick arch. Flannery flexible waterspace stays are



*Indian Government Railways "WM" class, broad-gauge standard locomotive*




*Principal weights and dimensions of the locomotive*

provided in the breaking zones at firebox sides, back, and throatplate, and the first four rows of the roof stays are also of this type. The grate comprises a dump bar at the front with hand-operated rocking bars, in two sections, controlled from the cab. Provision is made for fitting a rocking grate cylinder if required later.

A single hopper all-welded ashpan in two parts is provided, the shallow top portion being attached to the foundation ring and the lower portion carried on horizontal frame stretchers. The design provides air openings on all four sides of the ashpan, air control doors not being fitted. The normal Indian type cast-iron self-closing hopper discharge door is operated from track level. A Joco regulator is fitted in the dome and the superheater header is of the AX type with 21 A type elements. Two Gresham & Craven No. 8 live steam injectors supply water to the boiler through a standard type clackbox fitted on the top of the boiler barrel adjacent to the smokebox tubeplate. Other mountings include two 3 in. Ross pop safety valves, two Everlasting blow off cocks, and a continuous blow-down valve.

The engine has plate-type frames 1 in. thick suitably stayed by means of horizontal and vertical plate stretchers. The coupled horns are strengthened by one-piece cast-steel axlebox guides, fitted with manganese-steel liners; separate horn and frame fork clips are provided. Overhead spring gear for the coupled and front truck wheels is compensated throughout and the journals of the bronze coupled axleboxes are provided with Ajax grease lubrication.

The cylinders are fitted with cast-iron barrel liners and covers to suit dished type piston heads and the 8 in. dia. plug type piston valves are actuated by Walschaerts valve gear, the valve travel being 6¼ in. Lubrication is provided by a Wakefield A.C. pattern sight-feed hydrostatic lubricator in the cab. The connecting rod big end and coupling rod bearings are fitted with fixed case-hardened steel bushes and bronze floating bushes; hard grease Ajax lubrication is provided. The gudgeon pin and coupling rod knuckle pins are arranged for soft-grease lubrication.

The coupled wheels are of SCOA-P type and 71·8 per cent of the adhesive weight is braked by two 21 in. dia. vacuum cylinders positioned between the frames behind the trailing coupled wheels. The brake rigging is compensated and a hand brake is provided in the left hand side of the cab. The front radial arm type truck is lateral spring controlled and fitted with British Timken cannon type tapered roller bearing axleboxes. The outside journals of the hind bogie are also provided with British Timken roller bearing axleboxes.

Two side tanks, bunker tank and a middle tank located beneath the boiler between the frames at the driving wheel, are connected by 6·7/8 in. dia. bore equalising pipes. The tanks are of welded construction with stay and surge plates bolted in position. Filling boxes are fitted on each of the side tanks and on the right and left-hand side of the bunker tank. Stone's electric lighting equipment is provided and includes two 14 in. Tonum E headlights and a 500 watt 32 V. T.G.I. turbo generator. Gravity sanding is arranged to deliver sand to the front of the leading and the rear of the trailing coupled wheels. Inspection was carried out by the Consulting Engineers, Messrs. Rendel, Palmer & Tritton.

The principal dimensions are as follow:—

| | |
|---|---|
| Cylinders (2) ... ... ... | 16 in. dia. × 28 in. stroke |
| Coupled wheels, dia. ... ... | 5 ft. 7 in. |
| Pony " " ... ... | 3 ft. |
| Hind bogie " " ... ... | 3 ft. 7 in. |
| Heating surface :— | |
| Tubes—85 small tubes, 2 in. o.d. | 506 sq. ft. |
| 21 flue tubes, 5¼ in. o.d. | 328 " " |
| Firebox, including arch tubes ... | 131 " " |
| Total evaporative ... ... | 965 " " |
| Superheater, 1⅛ in. o.d. tubes ... | 230 " " |
| Total ... ... ... ... | 1,195 " " |
| Grate area ... ... ... | 24·6 " " |
| Adhesive weight ... ... ... | 48·48 tons |
| Boiler pressure ... ... ... | 210 lb. per sq. in. |
| Tractive effort at 85 per cent boiler pressure ... ... ... ... | 19,084 lb. |
| Adhesive factor ... ... ... | 5·68 |
| Total weight in working order ... | 96·56 tons |
| Water capacity ... ... ... | 3,000 gal. |
| Coal " ... ... ... | 6·5 tons |

## The Northbound "Senator" Express

*Photo]* *[M. Aubert*

*The "Senator," composed of the stock described in our May 16, 1952, issue, in the outskirts of Washington en route for New York and Boston*

# Improved Lighting at Bradford Exchange, Eastern Region

*Remote control of lanterns on platforms and concourse*

*Uniform illumination of horizontal and vertical planes on a platform lighted by gas lanterns with "Perspex" reflectors*

AN effective application of modern gas lighting technique to a station planned in the days before co-operation between architect and lighting engineer was recognised to be as important as it is now, is to be seen at Bradford Exchange Station, Eastern Region. The accompanying illustrations show how successfully even illumination has been obtained despite the handicap of there being few platform and building surfaces with a useful light reflection factor.

### Six-Light Gas Lanterns

A total of 80 new lanterns was used for the lighting of ten platforms and the concourse. All are of the Sugg Rochester type with six No. 2 mantles in cluster formation, and having a light output in the lower hemisphere of 2,700 lumens.

An innovation as far as railway gas lighting is concerned is the provision of dome-shaped "Perspex" reflectors approximately 24 in. in diameter by 6 in. deep. This type of reflector is less likely to suffer damage and is easier to keep clean than other forms of diffusing reflector, while it enhances the appearance of the individual lanterns and the daytime aspect of the station in general.

Some 20 new lighting points were introduced on the concourse. On the platforms the original spacings were used but larger lanterns were fitted to the existing points under the canopies and in busy sections. The mounting height of the 6-light Rochester lanterns is approximately 18 ft. and the spacing approximately 30 ft., giving a space/mounting height ratio of 1·6 to 1. The existing lighting on the platforms beyond the canopies was left unaltered, but included in the same control system.

Three remote control systems are in use for the station gas lighting. The platform lanterns, other than those mounted on columns beyond the canopies, are operated by the Sugg centralised control system, which in this installation is arranged to permit alternate lanterns to be turned out when a platform is empty, and lighted again shortly before a train is due. In conjunction with this system the Sugg Distant Control Device is used to operate the column-mounted lanterns to save the cost of burying some 400 ft. of relay tube, and special arrangements were made for simultaneous control of all lanterns from control boxes at the platform barriers.

All the lanterns on platforms 1 to 4 inclusive are controlled from the barrier of platform 1, and those on platforms 5 to 10 inclusive from the barrier of platform 10.

### Ignition without By-Pass

The control for the concourse lighting is the Sugg-Horsman Comet remote control system, incorporating the Newbridge Comet igniter. The concourse and roadway lanterns are operated in batteries of varying size by seven special control cocks fixed to stanchions and about 7 ft. from the ground. No by-pass is necessary with this system, ignition being provided from a dry battery through a gas pressure-operated igniter which is actuated when the supply is turned on from the control point.

All the equipment for this lighting scheme was supplied by William Sugg & Co. Ltd., of London, and the installation work was carried out by British Railways staff.

*In the concourse, as on the platforms, optical efficiency and careful planning have overcome the drawback of there being few effective reflecting surfaces*

# RAILWAY NEWS SECTION

## PERSONAL

Mr. J. M. Bell has retired as Acting General Manager, Malayan Railway.

Mr. B. H. Johnson, O.B.E., M.A., M.I.C.E., Chief Engineer, Rhodesia Railways, has been appointed Assistant General Manager.

Mr. Horton H. Hough, General Claims Adjuster, has been appointed to the new position of Manager, Claims Department, Canadian Pacific Railway, with jurisdiction over the entire system.

Mr. J. P. McClelland has retired as General Passenger Agent in charge of European passenger traffic, Canadian National Railways. He is succeeded by Mr. A. A. Masey, formerly District Traffic Agent at Southampton. The appointment is effective January 1.

Mr. C. F. Tyndall, M.I.Mech.E., M.I.Loco.E., has retired as Chief Motive Power Engineer, Coras Iompair Eireann.

Mr. John W. Barriger, President, Monon Route (Chicago, Indianapolis & Louisville Railway) in Chicago, will resign this position early this year in order to assume the Vice-Presidency of the New York, New Haven & Hartford Railroad.

The following changes have taken place among Aer Lingus senior executives:—Captain J. C. Kelly-Rogers has been appointed Deputy General Manager. Mr. Max Stuart-Shaw, Commercial Manager, has been appointed Assistant General Manager. Mr. P. J. Brennan, until recently the company's Assistant Secretary, becomes Commercial Manager, and Mr. O. Hone, formerly Traffic Controller, now assumes the title of Traffic Manager.

The following changes have taken place in the administration of the New Zealand Government Railways:—

Mr. E. H. Alington, Chief Accountant and Mr. J. Kelleher, Transportation Superintendent, have retired after 40 years' service. They have been succeeded, as announced in our November 28, 1952, issue, by Mr. J. Loft and Mr. C. H. Bray.

The District Traffic Managers at Auckland and Wanganui, Messrs. J. S. King and A. E. List, have retired and are succeeded by Messrs. J. G. Whetton and H. E. Stevens.

Mr. T. E. H. King has been appointed District Traffic Manager, Wellington.

The Directors of Guest, Keen & Nettlefolds Limited announce that Mr. Raymond P. Brookes has been appointed a Director of the company. Mr. Brookes has been associated with the group for several years and is Managing Director of Garringtons, Limited, Bromsgrove & Darlaston.

In a statement to the principal agents and distributors of the R. A. Lister group of companies Sir Percy Lister, the Chairman, announces that his board, which at present consists of his four brothers and himself, have invited Messrs. M. I. Prichard, F. E. Blackstone, and C. D. MacQuaide to be Assistant Directors to the board of the parent company. These appointments are subject to confirmation by the shareholders at the annual meeting early next year. The three new Directors have been selected from the executive staff of the group.

Mr. John Benstead, Deputy Chairman of the British Transport Commission, who receives the honour of a Knighthood in the New Year list, was born at Stamford, Lincs., in 1897, and was educated at King's School, Peterborough. He joined the Great Northern Railway in 1911. From 1915 to 1919 he served with the Royal Navy, mainly in H.M.S. *Warspite*. Mr. Benstead was Secretary, Peterborough No. 1 Branch of the National Union of Railwaymen, from 1922 to 1935, and held appointments also during that period as Secretary, Eastern District Council (1923-29), and as a member of the National Executive Committee (1930-32). He became Organiser, Southern District, in 1935, and was appointed Assistant General Secretary in 1940 and General Secretary in January, 1943. He was a member of Peterborough City Council from 1929 until 1935 and was Deputy Mayor of that city in 1932. He relinquished a prospective Parliamentary candidature for Ashton-under-Lyne on being appointed a full-time officer of the N.U.R. in 1935. Mr. Benstead was a member of the General Council of the Trades Union Congress from 1943 to 1947; a member of the Advisory Council, Scientific and Industrial Research from 1943 to 1948; and a member of the Royal Commission on the Press in 1947. He served as a member of the Colonial Economic and Development Council from 1946 to 1947 and was President of the International Transport Workers' Federation during that period. He was awarded the C.B.E. in 1946. Mr. Benstead is Chairman of the Nationalised Industries' side of the Minister of Labour's National Joint Advisory Council; he is a member of the British Productivity Council and a member of the Institute of Transport. He is the President of the Railways Convalescent Homes for 1953. Mr. Benstead was appointed a full-time Member of the British Transport Commission in September, 1947, and has been Deputy Chairman since 1949.

M. Henri Yrissou, who for several years has been head of M. Antoine Pinay's departmental staff, when M. Pinay was Minister of Public Works & Transport, and, later, Premier, has been made a member of the S.N.C.F. Board of Administration. In addition, M. Yrissou is a member of the Supreme Transport Council. It is expected that he will resign from these two posts on taking up his new appointment.

*Mr. John Benstead*

Deputy Chairman, British Transport Commission, who receives the honour of knighthood

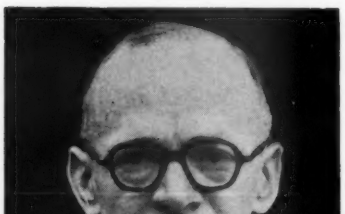
Major Tufton Beamish, M.C., M.P., has been elected to fill the vacancy on the board of the East Kent Road Car Co. Ltd. caused by the death of Mr. E. S. Shrapnell-Smith.

Babcock & Wilcox, Limited, announces that Mr. J. Stewart Robertson has been appointed Assistant General Manager of the company from today. Mr. Robertson started his career in engineering by serving his apprenticeship with the General Electric Co. Ltd., joining Babcock & Wilcox in 1935. The company also announces that due to the integration of the trading activities of the Stirling Boiler Company, a subsidiary, Mr. S. J. Whybrow, who joined that company in 1927 and who was appointed Director & General Manager six years ago, has been appointed Manager of the Commonwealth Sales Department of the parent company.

*Mr. G. F. d'Adhemar*

Appointed Chief Commercial Manager, North Western Railway, Pakistan

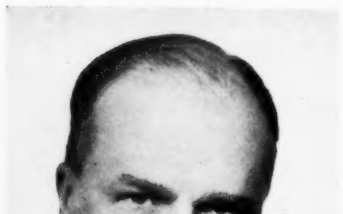
Mr. G. F. d'Adhemar who, as recorded in our November 21 issue, recently took over as Chief Commercial Manager, North Western Railway, Pakistan, has been intimately connected with the Railway Administration since 1920. Mr. d'Adhemar entered the service of the old Bengal and North-Western Railway (later called the Oudh Tirhut Railway) in July, 1920, as an Assistant Superintendent, Traffic. Having worked in the capacities of District Traffice Superintendent and Deputy Traffic Manager Mr. d'Adhemar was eventually appointed as Regional Controller of Railway Priorities and later acted in the capacity of Traffic Manager. At the time of partition of India Mr. d'Adhemar chose to serve the new State of Pakistan. He joined the Eastern Bengal Railway in August, 1947, as Regional Controller of Railway Priorities, and in April, 1948, was appointed Chief Traffic Manager.



*Mr. R. Postgate*

Appointed Traffic Auditor, London Transport Executive

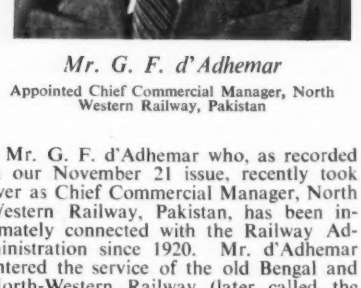
Mr. R. P. Postgate, who, as recorded in our December 19 issue, has been appointed Traffic Auditor, London Transport Executive, joined the Consett Iron Company Ltd. in 1923 and, after experience in the accounts department, was appointed Assistant to the Secretary and later Assistant Registrar to that company. During 1931 and 1932 he was engaged on accountancy work for commercial undertakings. He entered the service of the former London General Country Services Limited in 1932 and was appointed Assistant Secretary of the company in 1933. After the formation of the London Passenger Transport Board he served as Personal Assistant to the General Manager (country buses and coaches) from 1935 to 1939, when he was appointed Staff Assistant. In 1946 he was made responsible to the Operating Manager for the general administration of the headquarters offices and was appointed Principal Executive Assistant (Headquarters) in July, 1951, which post he relinquishes to take up his new appointment.



*Mr. H. A. Mugliston*

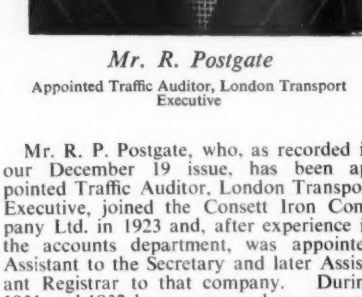
Appointed Shipping Traffic Superintendent, Belfast, London Midland Region

Mr. H. A. Mugliston, Assistant District Traffic Superintendent, Chester, British Railways, London Midland Region, who, as recorded in our December 19 issue, has been appointed Shipping Traffic Superintendent, Belfast, was educated at Clifton College and joined the former L.M.S. at Bristol in 1926. After holding various posts at stations and district offices in the Bristol and Birmingham areas, Mr. Mugliston was selected to attend the inaugural course at the L.M.S. School of Transport at Derby in 1938. Three years later he joined H.M. Forces in the Royal Engineers (Transportation Section) and was demobilised in 1946 with the rank of Lt.-Colonel. In April,



*Mr. Adolfo Kirkerup*

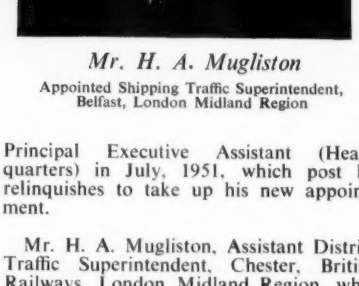
Appointed Chief, Way & Works Department, General Urquiza Railway, Argentina



*Lafayette* [*Dublin*

*Mr. J. J. Brangan*

Assistant General Agent, Dublin, British Railways



*Mr. S. W. Smart*

Superintendent of Operation, Southern Region, who becomes a C.V.O.

1946, Mr. Mugliston was appointed Goods Agent, Evesham, and later held similar positions at Gloucester and Edge Hill, Liverpool. He became Assistant District Traffic Superintendent, Chester, in 1948, whence he now takes up his new appointment.

Mr. Adolfo Kirkerup, who, as announced in our issue of August 22, has been appointed Chief of the Way & Works Department of the General Urquiza Railway, Argentina, was born in Avellaneda, Province of Buenos Aires, in 1913, and graduated from the National University of Buenos Aires in 1952 as a Civil Engineer. He forthwith joined the service of the Argentina State Railways, and in the following year was employed as Sectional Construction Engineer on both the Superí-La Cocha and Pedro Vargas-Malargüe branches. In 1944 he became Chief Construction Engineer for the Patagones to Nahuel Huapi and Ingeniero Jacobacci to Esquel lines. In 1946 he was named Divisional Traction Superintendent in Córdoba, and, a year later, District Civil Engineer in Salta. In 1950 he was promoted to Chief of the Traffic Department in Buenos Aires, becoming Technical Adviser to the Management of the General Roca Railway twelve months afterwards, which post he is now relinquishing.

Mr. J. J. Brangan, who, as recorded in our November 7, 1952, issue, has been appointed Assistant General Agent, Irish Traffic Superintendent's Office, Dublin, British Railways, joined the former L.N.W.R. office at Dublin in 1903. After experience in various branches he was appointed Personal Clerk to the Goods Agent in 1908 and subsequently held positions as Cashier, Chief Rates & Canvassing Clerk, Accounts Clerk (Goods), Chief Staff Clerk, and Commercial Assistant to the Irish Traffic Manager. Mr. Brangan has dealt with all aspects of the Commercial and Operating Departments in connection with cross-channel shipping and with the recently closed Dundalk Newry & Greenore Railway, which was under the control of the Irish Traffic Manager. Mr. Brangan is a member of conferences associated with British Railways in Ireland—The Irish Cross Channel Shipping Association and the Irish & British Traffic Conference.

Mr. S. W. Smart, Superintendent of Operation, Southern Region, British Railways, who, as recorded in our January 2 issue, receives the honour of C.V.O. in the New Year List, entered the service of the former L.B. & S.C. Railway in 1904 and served in the various sections of the Superintendent of the Line's Office until the grouping of the Railways in 1923. He was then appointed Assistant for Rules & Regulations in the Chief Operating Superintendent's Office at Waterloo, and in April, 1925, became Assistant to the London East Divisional Operating Superintendent. Five years later, he was appointed Assistant London Central Divisional Superintendent on the amalgamation of the Operating and Commercial Departments of the Traffic Department. In 1933, Mr. Smart was appointed Assistant for Train Services, and Assistant Superintendent of Operation in 1942, being appointed Superintendent of Operation in 1945. During the War he was particularly concerned with the emergency train service, the evacuation from London, and was a member of the Committee which evacuated the South-East coast to London and other parts of the country during the blitz days. He was closely involved with the return of the British Army *via* Dunkirk and also with the day-to-day emergency train services which arose from bomb damage. Mr. Smart was awarded the O.B.E. in the New Year's Honours List, 1947. In January last year he was given the award of Officer of the Orange Nassau on the occasion of the visit of the Queen of the Netherlands to England.

We regret to record the death of Colonel F. H. Greenhough, R.E., formerly Chief Engineer, Nigerian Railways & Collieries. Colonel Greenhough was 82.

Mr. J. McMaster, Assistant to Commercial Superintendent (Passenger), Scottish Region, British Railways, has been appointed District Passenger Superintendent, Glasgow.

The United Steel Companies Limited announce that Mr. C. R. Blick, M.B.E., T.D., has been appointed Assistant Commercial Manager of the Workington Iron & Steel Branch.

We regret to record the death on January 4 of Mr. J. Lees, formerly Chief Assistant Superintendent, Western Section, Southern Area, L.N.E.R.

Mr. A. H. Evans has retired as Assistant Superintendent (Claims & General) Rhodesia Railways, after 32 years' service.

Mr. A. F. Ferrett, Head of Goods Traffic Development Section, Commercial Superintendent's Office, London Midland Region, Euston, is retiring at the end of this year after 44 years' service. Since he joined the former L.N.W. Railway in January, 1909, Mr. Ferrett has held positions in London, Northampton, Manchester, Leeds, Lancaster and Carlisle.

We regret to record the death on December 28 of Colonel W. S. Robinson, M.I.Mech.E., A.M.I.Loco.E., formerly Chief Locomotive Engineer of the Belfast & County Down Railway. When the Ulster Transport Authority took over the railway, he became Works Superintendent of the Authority, from which he retired in January last.

We regret to record the death of Mr. E. S. Shrapnell-Smith, who was a Director of the East Kent Road Car Co. Ltd. since 1919.

We regret to record the death, at the age of 70, of Mr. J. S. Drewry, formerly Joint Managing Director, Shelvoke & Drewry, Limited, and designer and manufacturer of the first of the Drewry railcars.

The United Steel Companies Limited announces the following impending changes at the Appleby-Frodingham Branch, Scunthorpe:—Engineer Rear-Admiral C. W. Lambert, C.B., General Works Manager, will retire at his own request on June 30. He will be succeeded by Mr. A. Jackson, Works Manager (Steel) & Deputy General Works Manager. Mr. T. P. Lloyd, B.Sc., A.I.M., T.D., has been appointed Assistant Works Manager (Steel) in which capacity he will assist Mr. Jackson. On July 1, consequent upon the appointment of Mr. Jackson as General Works Manager, Mr. T. P. Lloyd will be appointed Works Manager (Steel).

Mr. H. N. Norbury has been appointed Sales Manager of Henry Meadows, Limited, Wolverhampton.

Mr. B. C. Westall, Managing Director, Thomas De La Rue & Co. Ltd., is retiring. He will remain as Chairman of the company. Mr. A. G. Norman has been appointed Managing Director.

Mr. R. A. Smyrk, Traffic Manager of Thos. Cook & Son Limited since 1948, has been appointed Staff Manager in succession to Mr. J. S. Marks, who is retiring for health reasons.

Mr. Howard J. Ashby has retired from the post of Tyre Sales Manager, Dunlop Rubber Co. Ltd. He will be succeeded by Mr. H. J. Holmes, Sales Manager in Bristol.

Mr. H. M. Palin has been appointed Director of the British Cycle & Motor Cycle Manufacturers' & Traders' Union Ltd., Coventry, in succession to Major H. R. Watling, who has retired.

The Brush A.B.O.E. Group announces the appointment of Mr. D. G. Hawkins as General Manager of the National Gas & Oil Engine Co. Ltd., Ashton-under-Lyne.

Mr. R. W. Cooper, Chairman, has resigned his Directorship of The British Aluminium Co. Ltd., and has been succeeded as Chairman by Viscount Portal of Hungerford. Mr. E. F. O. Gascoigne has been appointed a Director of the company.

At a luncheon at the Waldorf Hotel, London, on December 16, two retiring Branch Managers of British Insulated Callender's Cables Ltd., Mr. R. S. Gough, and Mr. T. R. Thomas, were presented with cheques which had been subscribed to by their colleagues.

Vickers Limited announces that for reasons of health Mr. A. J. Palmer, C.B.E., will vacate his seat on the Board of Directors at the close of the year. He also retires from the boards of Vickers-Armstrongs Limited and other companies in the group.

Mr. R. B. Byrne, Assistant Superintendent, Engineering Division, The Railway Executive Research Department, Ashford, has been awarded a gold medal by the Society of Engineers for his paper entitled "The Fatigue of Metals; Facts and Theories Reviewed."

The Council of the Institute of Metals has awarded The Rosenhain Medal for 1953 to Dr. Charles Eric Ransley, of the Research Laboratories, the British Aluminium Co. Ltd., Gerrards Cross, in recognition of his outstanding experimental and theoretical work on gas-metal equilibria.

Mr. J. W. Shirley will shortly be relinquishing his appointment with Eastern Coachworks, Limited, to take up the position of Director & General Manager of Park Royal Vehicles, Limited.

Mr. F. C. Barford, T.D., M.I.E.E., Member of the Association of Mining, Electrical & Mechanical Engineers, Manager of the Newcastle-on-Tyne District Office of the British Thomson-Houston Co. Ltd., has been appointed Manager, B.T.H. Manchester District Office in succession to Mr. A. B. Race, who is retiring after 22 years' service.

Mr. Philip Rackham has been appointed Home Sales Manager, and Mr. P. J. Arrow, South-Eastern Regional Manager, of A.C.V. Sales, Limited.

Mr. A. W. Izzard has been appointed General Freight Agent for the Canadian Pacific Railway at the company's headquarters in Montreal in succession to Mr. D. W. Johnston, who has retired. Since February, 1952, he has been General Freight Agent, Rates & Divisions, for the C.P.R.'s Eastern Region.

### The New Year Honours List

The following is a selection, further to that published in our last week's issue, of honours of transport and industrial interest from the New Year list:—

*Knights Bachelor*

Mr. L. Evans, C.B.E., General Secretary, Iron & Steel Trades Confederation.

Mr. S. C. Parkin, C.B.E., General Manager & Secretary, National Dock Labour Board.

*C.B.*

Mr. W. H. Glanville, C.B.E., Director, Road Research Laboratory, Department of Scientific & Industrial Research.

Mr. G. I. Morris, Under-Secretary, Ministry of Transport.

*C.M.G.*

Mr. R. W. Foxlee, C.B.E., Engineer-in-Chief, Office of the Crown Agents for the Colonies.

*C.B.E.*

Mr. F. E. Hough, O.B.E., Chief Mechanical Engineer, Rhodesia Railways.

Mr. L. V. Keitley-Duff, lately General Manager in Bolivia of the Antofagasta-Bolivia Railway.

Mr. J. N. McMillen, lately Chairman, Northern Ireland Tourist Board.

Mr. H. Sparrow, Chief Mechanical Engineer, North Western Railway.

Mr. S. A. H. Whetmore, lately Joint Managing Director, Billingham Division, Imperial Chemical Industries, Limited.

Mr. J. Williamson, Senior Partner, James Williamson & Partners, Glasgow.

*O.B.E.*

Mr. F. T. Ball, Controller of Transport, Ministry of Works.

Mr. D. E. Bell, General Manager, Yorkshire Woollen District Transport Company, Limited.

Mr. B. Curran, Director, Edward Curran Engineering Company, Limited, Cardiff.

Mr. H. F. Dennison, M.B.E., Signal Engineer, East Bengal Railway.

Mr. J. W. Drinkwater, Assistant Director of Engine Research, Ministry of Supply.

Mr. W. K. Hall, Works General Manager, Billingham Division, Imperial Chemical Industries, Limited.

Mr. G. L. Hopkin, Senior Principal Scientific Officer, Ministry of Supply.

Mr. J. E. Jones, T.D., Senior Engineer, Wales & Monmouth Divisional Road Engineer's Office, Ministry of Transport.

Mr. M. Kanagasabay, General Manager, Ceylon Government Railway.

Mr. C. J. Mays, Schedules Superintendent (Road Transport), London Transport Executive.

Mr. E. H. Mott, Senior Principal Scientific Officer, Ministry of Supply.

Mr. H. R. Priday, M.B.E., J.P., Regional Secretary, Transport & General Workers' Union.

*M.B.E.*

Mr. E. S. Birch, Assistant to the General Manager, Port of London Authority.

Mr. E. G. A. Birkett, Area Engineer, United Automobile Services, Limited, British Transport Commission.

Mr. J. F. Booth, Managing Director, Hepworth Iron Company, Limited, Sheffield.

Mr. F. Burr, District Secretary, Transport & General Workers' Union, Middlesbrough.

Mr. R. F. Bushrod, Traffic Manager, Wiltshire & Dorset Motor Services, Limited.

Mr. F. G. Dean, District Operating Superintendent, Worcester, British Railways, Western Region, and formerly Operating Assistant at the Railway Executive on the Staff of Sir Michael Barrington-Ward.

Mr. M. W. Dodds, Senior Executive Officer, Office of the Crown Agents for the Colonies.

Mr. A. Elson, Accident Prevention Officer, Samuel Fox Company Branch, United Steel Companies, Limited.

Mr. F. Fletcher, Manager, Special Technical Productions, General Electric Company, Limited.

Mr. J. R. Garwood, Divisional Superintendent (Central Road Services), London Transport Executive.

Mr. C. J. Gillard, District Officer, H.M. Coastguard, Ministry of Transport.

Mr. H. J. Grimsey, Secretary, National Arbitration Tribunal & Industrial Disputes Tribunal, Ministry of Labour & National Service.

Mr. J. Halliwell, Operating Officer, Northern District, North Western Division, Docks & Inland Waterways Executive.

Mr. J. L. Hamilton, Personnel Manager, Northern Aluminium Company, Limited, Rogerston, Monmouthshire.

Mr. R. E. C. Higgins, Higher Executive Officer, Ministry of Transport.

Mr. W. F. S. Jolley, Higher Executive Officer, Ministry of Transport.

Mr. H. S. Jones, Chief Engineer, Round Oak Steel Works, Limited, Brierley Hill, Staffordshire.

Mr. J. L. Jones, Coventry District Secretary, Transport & General Workers' Union.

Mr. E. M. May, Higher Executive Officer, Ministry of Transport.

Mr. G. T. Maynard, Higher Executive Officer, Ministry of Transport.

Mr. H. Moliver, Personnel Manager, Craven Bros. (Manchester), Limited, Stockport.

Mr. B. L. Newbould, Manager, Steel Melting Department, Thomas Firth & John Brown, Limited.

Mr. I. Owen, Clerk to the Licensing Authority, South Wales Traffic Area, Ministry of Transport.

Mr. C. H. C. Payne, Construction Designer, Billingham Division, Imperial Chemical Industries, Limited.

Mr. J. H. Polson, Steel Foundry Moulding Shop Superintendent, David Brown Foundries Company, Yorkshire.

Mr. W. J. Russell, lately Assistant Engineer, Acting District Engineer, East African Railways & Harbours Administration.

Mr. E. Salthouse, Chief Draughtsman, Electrical Drawing Office, Harland & Wolff, Limited, Belfast.

Mr. E. Saunders, lately Works Manager, Silvertown Works, Imperial Chemical Industries, Limited.

Mr. T. F. Shinkfield, Chief Draughtsman, Iraqi State Railways.

Mr. F. G. Whitfield, Chief Executive Officer, Ministry of Supply.

Mr. T. S. Wood, Chief Draughtsman, Electrical Department, John Brown & Company, Limited, Clydebank.

## Supervisory Control Equipment for Southern Region Electrified Lines

British Railways have placed an order with the General Electric Co. Ltd. for supervisory control equipment in connection with the Southern Region change of frequency scheme, whereby the a.c. supply frequency is being brought into line with the standard 50-cycle grid supply. The G.E.C. system provides for the remote control and indication and certain metering of the switchgear associated with the supply network of the electrified Eastern, Central, and Western sections of the Southern Region.

There will be three separate control rooms, from each of which control will be extended to the substations and track-paralleling stations in that section. The arrangement of the sections is as follows:—

*Eastern Section:* Control room at Lewisham, controlling 27 substations and 24 track-paralleling stations. Facilities amount to 400 controls with back-indication and 90 indications only.

*Central Section:* Control room at Selhurst, controlling 31 substations and 24 track-paralleling stations. Facilities amount to 475 controls with back-indication and 137 indications only.

*Western Section:* Control room at Raynes Park, controlling 40 substations and 27 track-paralleling stations. Facilities amount to 480 controls with back-indications and 111 indications only.

A selectively called telephone system is also provided whereby the control room can select and have a speech circuit to any substation or track-paralleling station in the particular section. This order, valued at approximately £180,000, is in addition to the £3,000,000 orders already received by the General Electric Co. Ltd., and Pirelli-General Limited for this changeover.

ATTRACTING TOURISTS TO NORTHERN IRELAND.—Over 600,000 brochures and leaflets describing holiday facilities in Northern Ireland will be despatched to all parts of Britain and the Republic of Ireland during 1953, according to a statement made at a meeting of the Northern Ireland Tourist Board. Altogether, publicity for Northern Ireland will cost in the current financial year almost £40,000, of which £33,000 will be spent in publications and through the Press.

PASSENGER SERVICE WITHDRAWN FROM BAILDON.—The ordinary passenger train service was withdrawn from Baildon Station, North Eastern Region, on the former M.R. line from Bradford to Ilkley and Harrogate, from January 5; excursion will call when demand suffices and as long as the platforms remain serviceable; alternative bus services are available. The goods depot now is an unstaffed public delivery siding; facilities for parcels traffic are provided at Shipley Station, and the previous arrangements for handling smalls and carted full load traffic continue; non-carted freight traffic and coal is dealt with at the public delivery siding at Baildon.

# New Passenger Charges Scheme

*Increases sought in rail and road fares in London Area to yield* £6,000,000*;* £500,000 *annually from railway season and early morning fare increases in provinces*

In accordance with Sections 76 and 77 of the Transport Act, 1947, the British Transport Commission on January 5 lodged with the Transport Tribunal its Passenger Charges Scheme, 1953, to supersede the Passenger Charges Scheme, 1952. The latter was lodged in April, 1951, and authorised by the Tribunal (after considerable modification) on February 27, 1952, to take effect from March 2, 1952, as regards British Railways in the London Area and London Transport rail and road services, and from May 1, 1952, as regards British Railways outside the London Area. The result of interventions by the then Minister of Transport, Mr. J. S. Maclay, in April, and by his successor, Mr. Alan Lennox-Boyd (the present Minister) in June, was a further fares revision from August 31, 1952, so that fare increases were less than had been envisaged by the 1952 Scheme, with a loss of revenue to the Commission which would amount to some £2 million in a full year. Under Section 77 of the Act, there is no minimum time between the coming into force of a Charges Scheme and the lodging of a new Scheme to revoke or amend it.

### Statement by Lord Latham

Announcing the lodging of the Scheme on January 5, Lord Latham, Chairman of London Transport Executive, said that heavy rises in costs and other factors beyond their control (such as the Government intervention in fares) during 1952 had compelled the London Transport and Railway Executives to ask the B.T.C. to apply to the Transport Tribunal for a further increase in passenger fares.

The Scheme, he added, asked for a limited increase in passenger fares in the London Area, on the road and rail services of London Transport and on the rail services of British Railways inside that Area; and for identical increases of certain categories of passenger charges on British Railways outside. Inside the London Area all ordinary fares of London Transport would be treated alike, except for two where the increase would be smaller, and two others where there would be no increase at all. The minimum and most used 2d. fare on London Transport services, road and rail, was left untouched. Fare stages were not to be altered.

As regards British Railways outside the London Area, the proposals were limited to the early morning fares and seasons. The standard ordinary fares on British Railways outside London were already on a higher level than corresponding fares in London; they still would be slightly higher after the proposed increases in London.

The increases were the result of rising costs. The B.T.C. was under the statutory obligation to ensure as far as possible that its receipts met its costs, and the Commission similarly must ensure that its constituent Executives paid their way. Passenger transport must be able to cover by its fares the proper costs of the services provided. Despite every economy effort made by London Transport and British Railways, this was not the case yet in the London Area.

### Increased Costs in London Area

Within a few days of the coming into force of the last fare increases, fuel oil duty was increased by 7½d. a gallon, involving London Transport in an annual cost of £1,150,000. The three successive increases of fuel duty by three successive Governments in three successive Budgets by three successive Chancellors (in 1950, 1951 and 1952) cost London Transport road services £3,260,000 a year. Its total annual bill for fuel duty was £4,650,000; if licensed vehicle duty of £850,000 was included it was £5½ million. There was also an increase in coal prices at the end of 1951, which added £500,000 to the annual cost of passenger transport in London.

As to wages, since the 1952 Scheme had been heard by the Tribunal, wage awards had added to the cost of passenger transport in the London Area alone some £3 million a year. Government intervention last summer meant a loss of revenue of £1,200,000 to London Transport.

Lord Latham then showed how these changes had worsened the position in the London Area in the following summary:

| | Annually £ million |
|---|---|
| Increases in wages rates: | |
| Increase in autumn of 1951 in excess of estimate ... ... ... ... | 0·4 |
| Increases in autumn of 1952 ... | 2·6 |
| | 3·0 |
| Increase in coal prices on December 31, 1951 ... ... ... ... ... | 0·5 |
| Increase in fuel oil duty in March, 1952... | 1·2 |
| Reduction in increase in sub-standard fares in August, 1952 ... ... ... | 1·2 |
| Total ... ... ... | 5·9 |

This meant that London Transport receipts in 1952 (during which the extra costs and increased fares did not apply for the full year) had been quite insufficient to cover the cost of services. The L.T.E. deficit for 1952 would be about £3,000,000, with, it was thought, a working surplus on London Transport railways as for 1951, when there was a deficit of £2,000,000 on road services and net receipts of £500,000 from the Underground.

In 1953 they would have the burden of the higher costs over the whole year. Even with the effect of present fare levels over the whole year they must foresee a still larger deficit in 1953, if fares were not altered.

### No Margin for Contingencies

These deficits, Lord Latham emphasised, left no margin for contingencies and took no account of accumulated past deficits in the London Area: accumulated L.T.E. deficits alone amounted to £9,000,000. Higher replacement costs of plant required £2,000,000 a year to be added to London Transport expenses, but there was provision for this in the new Scheme. Heavy costs in the London Area must be borne by that Area, which must not be subsidised by the provinces. The 1952 increases in costs affected the Commission as a whole just as they had affected passenger transport in the London Area. As the Minister had told the House of Commons, unless charges were increased the Commission would have a total deficit in a full year of £21,000,000, towards which £14,500,000 would be obtained from the increases in freight charges in December, 1952.

Despite economies, London Transport costs now were about 130 per cent, and fares 71 per cent above prewar; with the increases proposed in the Scheme they would be 84 per cent above. Without considering the increased cost of replacements, there was justification for fare adjustments in the London Area to yield more than the £6,000,000 asked for in the Scheme. Of this, nearly £5,000,000 would be payable by London Transport passengers and a little over £1,000,000 by passengers on the London lines of British Railways, roughly proportionate to the volume of passenger traffic each system carries in the London Area. In the circumstances this was not an excessive increase on a total London fares bill of over £85,000,000.

### London Transport Cheap Fares

Cheap fares were not justified for London Transport, Lord Latham said. They were out of the question for the rush hours. For off-peak hours, if the reduction of fares was worth while, say by 25 per cent, traffic would need to increase by 33 per cent before they broke even with present receipts; if traffic increased to this extent, additional services would be required, involving increased operating costs. If they introduced off-peak fares and, as a consequence, lost money, that would be a disservice to the bulk of passengers who must travel in the peak hours, because they would have to charge higher fares for peak-hour traffic.

### London Area: Detailed Proposals

*London Transport and Tilbury Line Ordinary Fares:* On London Transport road and rail services the 2d. minimum fare is to be unchanged, as is the 5d. fare. The 3d. ordinary single fare is to become 3½d., the 6d. fare 7d., the 8d. fare 8½d., and the 9d. fare 10d., and all higher single fares are to be increased similarly by 1d. Green Line Coach fares which are on the same scale, but normally subject to a minimum of 1s. single in the inner area and 9d. single outside, will bear the same increases.

*Day return tickets on British Railways in London Area* are to remain exactly twice the corresponding London Transport ordinary single fare; that is to say, the increase will nowhere be more than 2d. on the return journey.

*Early morning single fare* up to ten miles on the road services, which is at present 3d., to be raised to 4d.

*Eightpenny early morning return fare* on London Transport and British Railways to be increased to 9d., the 9d. to 11d., the 11d. to 1s., and 1s. and higher fares will be increased by 2d.; no increase to exceed 2d. for the return journey.

*Monthly season ticket rates on London Transport and British Railways* will be subject to a flat increase of 2s. in each case; three-monthly rates to be increased by not more than 5s. 6d. and the weekly seasons by not more than 9d.

### Remarks on London Area Proposals

Lord Latham has commented that the 2d. minimum fare and the 5d. fare, neither of which is to be raised, together cover over 50 per cent. of ordinary journeys made by London Transport services. The lowest fare to be increased, the 3d. one, which constitutes more than another 25 per cent. of ordinary London Transport journeys, is being raised by ½d. only, and was not increased at the last revision. With both seasons and ordinary

and early morning fares, an effort has been made, in applying flat increases, to make them proportionately less than the fares of those who must travel the greater distances. No fare for an ordinary or early morning single journey in the London Area is to be raised by more than 1d., and no day or early morning return by more than 2d. It is thought that only a small proportion of passengers will have to pay the increase twice on one journey when a change is involved from one road vehicle to another or from road to rail or *vice versa*.

**EXAMPLES OF L.T.E. PRESENT AND PROPOSED RAIL FARES**

| Stations between | Existing | | | | | Proposed | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Single fare | Early morning return fare | Season ticket rates | | | Single fare | Early morning return fare | Season ticket rates | | |
| | | | 3 mths. | 1 mth. | 1 week | | | 3 mths. | 1 mth. | 1 week |
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Tooting Bdy.–Leicester Sq. | 0 9 | 1 0 | 84 6 | 31 3 | 8 9 | 0 10 | 1 2 | 90 0 | 33 3 | 9 3 |
| Southgate–Leicester Sq. ... | 1 0 | 1 3 | 108 9 | 40 3 | 11 3 | 1 1 | 1 5 | 114 3 | 42 3 | 11 9 |
| Debden–Liverpool St. ... | 1 8 | 1 10 | 149 3 | 55 3 | 15 3 | 1 9 | 2 0 | 154 9 | 57 3 | 15 9 |
| Hammersmith–Charing X | 0 6 | 0 9 | 68 3 | 25 3 | 7 0 | 0 7 | 0 11 | 73 9 | 27 3 | 7 6 |
| Wembley Park–Kings Cross | 1 0 | 1 3 | 108 9 | 39 6 | 11 3 | 1 1 | 1 5 | 114 3 | 41 6 | 11 9 |
| Archway–Kings Cross ... | 0 5 | 0 8 | 57 9 | 21 6 | 6 0 | 0 5 | 0 9 | 63 0 | 23 6 | 6 6 |

### British Railways Outside London

The increases proposed are identical with those proposed in London, in the two cases where the present scales are already on a common level (early morning fares and season tickets). As in London, the early morning return fares are to be increased by up to 2d. and the third class monthly seasons by 2s. (with corresponding increases in first class). The ordinary fares on British Railways both for single and for return journeys are not affected by the Scheme.

These increases outside the London Area are estimated to yield some £500,000 in a full year.

### Comment by Mr. Blee

Mr. David Blee, Member of the Railway Executive for commercial matters, said, as complementary to the statements by Lord Latham, that one consistent feature of the Passenger Charges Schemes was that the London Area had been treated as a whole, and that there had been an assimilation of fares upon the London lines of British Railways and London Transport to the advantage of Londoners as a whole, in that all routes were equally available at the same fare level.

Holiday fares, he pointed out, would not go up. They hoped experience would prove that their decision not to increase these fares will be rewarded by an increasing volume of support for their services by the travelling public, particularly during the coming spring and summer. Now was the time of the year when many families began to consider their holiday arrangements, and he was glad to be able to give this assurance.

The Railway Executive, Mr. Blee added, did not intend in any way to curtail main-line excursion facilities. It would continue to cater for football and other special events; still seek to develop new passenger business, even by speculative excursions wherever the prospect of success seemed reasonable; and back this with really good services. The policy here was to encourage and develop the fullest possible use of engines and coaching stock, staff and general resources in the off-peak season (and hour of the day) by enterprise and by attractive services and fares.

### Hearing of Scheme by Transport Tribunal

Objections to the Scheme must be lodged by February 2, and the hearing before the Tribunal will begin on March 9.

Lord Latham said on January 5 that even with the greatest possible expedition in hearing all objectors, and so on, it was unlikely that the Scheme could be approved at the earliest before the late spring of this year.

# Locomotive Maintenance on British Railways

*Statement by Railway Executive*

In consequence of comment on the standard of locomotive maintenance on British Railways after publication of the Inspecting Officer's report on the Blea Moor accident (see page 33), the following notes on the situation were issued by the Railway Executive.

Maintenance of locomotives on British Railways is carried out by (*a*) periodical overhaul in the main workshops, and (*b*) day-to-day service at the motive power depots. In each Region there is a locomotive shopping bureau which decides the locomotives to be brought into the main workshops for periodical repairs, a decision which is made entirely on the physical condition of each locomotive as revealed by regular reports from the motive power depots.

When a locomotive is received at the workshops for repairs it is thoroughly examined to ensure that all parts requiring attention are restored to sound mechanical condition. All work done is subject to careful inspection both during progress and before the completed locomotive is returned to traffic. There are 18 main locomotive workshops on British Railways employing some 38,000 staff and each year about 10,000 "classified" repairs are carried out. Approximately 80 per cent of the total man-hours expended in these works are devoted to locomotive maintenance, the remaining 20 per cent being engaged on building new locomotives and on the maintenance of plant and equipment.

Concurrently with the building of new locomotives a rather greater number of older and obsolete types of locomotives has been withdrawn from traffic each year. During the last five years there have been put into stock 2,407 locomotives and 3,375 have been withdrawn from traffic.

The day-to-day maintenance at regional motive power depots is undertaken by an examination and repair system on a period or mileage basis. This system ensures: (1) That all moving parts are subjected to examination according to the mileage worked; (2) that non-moving parts, such as boilers, steam fittings, and so on, which are subject to deterioration whether the locomotive is in motion or not, are subjected to examination on a period basis.

In addition, all locomotives working main-line passenger or fast freight trains are submitted to a thorough examination by a qualified examining fitter, or other fitter so detailed, once each day. A similar examination is carried out weekly on all other locomotives.

To supplement the depot examination system, every driver of a locomotive submits, at the end of his turn of duty, a card indicating whether or not any defects have become apparent whilst the locomotive has been in his charge. Mechanical failures are reported immediately they occur. A mechanical failure is defined as any incident which causes 5 min. delay to a passenger train or 10 min. to a freight train, attributable to the locomotive. In addition, any incident in which parts of the locomotive are concerned, whether causing delay or not, is reported, such as hot bearings.

The number of locomotives has been reduced by 1,776 since British Railways took over in 1948. A comparison is given below:—

**Number of Locomotives**

| At end of: | Number | At end of: | Number |
|---|---|---|---|
| 1938 ... | 18,931 | 1950 ... | 19,053 |
| 1947 ... | 20,445 | 1951 ... | 18,849 |
| 1948 ... | 19,757 | 1952 (Nov. 22) | 18,669 |
| 1949 ... | 19,386 | | |

The following figures show percentages of locomotives available for traffic:—

| At end of: | % | At end of: | % |
|---|---|---|---|
| 1938 ... | 81·7 | 1950 ... | 83·8 |
| 1947 ... | 80·2 | 1951 ... | 84·1 |
| 1948 ... | 82·9 | 1952 ... | Not yet available |
| 1949 ... | 83·1 | | |

A proportion of the locomotives must always be undergoing repair if the stock is to be kept efficient. The target of availability of the stock for service is 85 per cent, and it will be seen that the figure is now nearing this target, which could not be the case unless there were a thoroughly sound maintenance organisation. Statistics of annual mileage and incidence of defects are given below:—

**Mileage Run by Locomotives**

| Year | Miles (Millions) | Year | Miles (Millions) |
|---|---|---|---|
| 1938 ... | 537·2 | 1950 ... | 499·8 |
| 1947 ... | 480·8 | 1951 ... | 492·3 |
| 1948 ... | 493·3 | 1952 ... | Not yet available |
| 1949 ... | 503·1 | | |

**Locomotive Mileage per Mechanical Casualty**

| Year | Miles | Year | Miles |
|---|---|---|---|
| 1949 (April) ... | 15,845 | 1952 (April) ... | 29,441 |
| 1950 ,, ... | 19,667 | 1952 (Nov.) ... | 30,722 |
| 1951 ,, ... | 27,730 | | |

A test of maintenance efficiency is the

frequency or otherwise of locomotive casualties. A systemised method of reporting and recording has been introduced under unification and has enabled comparison between all Regions to be made. It will be seen from the above all-line figures that the mileage run between locomotive casualties has been nearly doubled in recent years.

The number of staff available for cleaning locomotives today is 2,762, which is barely half the number required, and notwithstanding the most constant and strenuous effort to secure the cleaning complement required, the Labour Exchanges have been unable to meet the railway requirements. Before the war, with large numbers of workmen unemployed, a complement of cleaners was obtained without difficulty.

## Staff & Labour Matters

### Trade Unions and Steel Bill

Mr. Duncan Sandys, Minister of Supply, on January 2 met representatives of the General Council of the T.U.C. and of the principal trade unions in the iron and steel industry. The purpose of the meeting, held at the invitation of the Minister, was to discuss the provisions of the Iron & Steel Bill.

Whilst it was made clear that the T.U.C. maintained its opposition to the Government policy of denationalisation, an exchange of views took place on various aspects of the Bill, and the Minister undertook to consider certain detailed amendments suggested to him by the delegation.

RHODESIA RAILWAYS TRUST LIMITED.—Profit of the Rhodesia Railways Trust Limited for the year ended September 30, 1952, was £117,406, after taxation, as compared with £107,371 in the preceding year. Taxation, at £122,798, was £10,673 higher. The dividend is being raised from 9 per cent less tax as in the past two years to 10 per cent less tax.

JONAS WOODHEAD & SONS LIMITED.—Group profit of Jonas Woodhead & Sons Limited in the year ended September 30, 1952, was £179,294, after deduction of all charges except taxation. Last year the corresponding figure was £167,778. Taxation this year took £128,338, against £87,221, leaving a final group profit of £50,956 as compared with £80,557 in the previous year.

MANILA RAILWAY CLAIMS SETTLEMENT PROSPECTS.—Sir Findlater Stewart, Chairman of the Manila Railway Co. (1906) Ltd., told the general meeting in London on December 29 that a few days earlier a letter had been received from the Manila Railroad Company asking in general terms whether they would give consent to the sale of surplus properties. They had replied, also in general terms, that they would agree, provided the proceeds of sale were paid over to the trustees of the refunding mortgage bonds for the account of bondholders. It was pointed out at the same time that the consent of the trustees to such sales would also have to be obtained. The Chairman summed up the present position by saying that, while no specific proposals as to the sale of the properties, or the terms of a general settlement, had been made to them by the railroad company, they might perhaps hope, in the light of the latest approach from Manila, for a more realistic treatment of their claims.

## Contracts & Tenders

The General Electric Co. Ltd., has received a contract from British Railways valued at £180,000 for supplying supervisory control equipment for the change of frequency scheme on the Southern Region. Details are given on page 50.

It is reported that Australia is to supply nine main line diesel-electric locomotives to the Pakistan railways under the Colombo Plan. They will be manufactured by the Clyde Engineering Co. Pty. Ltd., of Sydney, and the Pakistan Government will meet the dollar costs of providing American components.

The Canadian National Railways have placed orders for rolling stock to a total of $34,000,000 with the Canadian Car & Foundry Co. Ltd., National Steel Car Corporation Limited and the Eastern Car Co. Ltd. The order includes 1,300 boxcars, 155 flat wagons, 250 refrigerator vans, 450 hopper wagons, 30 baggage vans, 575 gondola wagons, 30 air dump wagons and 1,000 ore wagons. The order brings to $128,161,211 the value of undelivered rolling stock on order by the C.N.R.

The United Kingdom Trade Commissioner at Delhi has notified the Board of Trade, Commercial Relations & Exports Department, of a call for tenders issued by the Directorate General of Supplies & Disposals, Government of India, for:—

320 flues, superheater, steel, 16 ft. 1½ in. long × 5½ in. outside diameter × 8 SWG thick for "WP" locomotives.

300 tubes, steel, piecing, superheater flue tubes, 4½ in. outside diameter × 7 SWG, in lengths of 10 ft. for "XA," "B," "D," "M," "G," "YB" and "YD" class locomotives.

Tenders should reach the office of the Directorate General of Supplies & Disposals, Government of India, Shahjahan Road, New Delhi 2, by 4 p.m. on January 28. A copy of the tender documents is available for inspection at the Board of Trade by representatives of interested United Kingdom manufacturers. A further copy is available on loan in order of written application. Reference CRE/42386/52 should be quoted.

The Special Register Information Service of the Board of Trade reports that the United Kingdom Trade Commissioner at Delhi has notified the Commercial Relations & Exports Department of the Board of Trade of a call for tenders issued by the Directorate General of Supplies & Disposals, Government of India, for:—

74,595 universal couplings 2 in. to ISR Drawing No. VB-321 alt. 5 and to IRS Specification No. R.3/51.

8,545 Universal couplings 2 in. (M.C.1 or steel class 1) to IRS Drawing No. VB-321 alt. 5 and to IRS Specification No. R.3/51.

Tenders should reach the office of the Director General of Supplies & Disposals, Shahjahan Road, New Delhi, by 10 a.m. on January 23. A copy of the tender documents is available for inspection at the Board of Trade by representatives of United Kingdom manufacturers. A further copy of the tender documents is available on loan in order of written application. Reference CRE/43692/52 should be quoted.

The First Secretary (Commercial) at Bangkok has notified the Board of Trade, Commercial Relations & Exports Department, that the closing date for receipt of the following tenders has been postponed for thirty days from the original closing dates:—

| | Original closing |
|---|---|
| (*a*) all-steel covered goods wagons | 2 p.m. ,January 26 |
| (*b*) bodies and underframes for covered goods wagons | 2 p.m., February 4 |
| (*c*) all-steel high-side wagons | 2 p.m., January 19 |
| (*d*) all-steel low-side wagons | 2 p.m., January 6 |
| (*e*) bogie high-side and bogie well wagons | 2 p.m., February 11 |

Reference to tender (*a*) was made in our December 5, to tenders (*b*) and (*c*) in our December 12, to tender (*d*) in our November 21, and to tender (*e*) in our January 2 issue.

The Special Information Service of the Board of Trade states that the Commercial Department of the British Embassy, Montevideo, Uruguay, has reported that the Administracion de Ferrocarriles del Estado (State Railways Administration), Montevideo, is calling for tenders for:—

(1) 300 m. of "Quintuple" rubber hose, fo steam between locomotive and tender; interna diameter ¾ in. for steam pressure of 200 lb. per sq. in.

(2) 300 m. of discharge rubber hose, 3 ply, 50 ft. in length, 1 in. internal diameter, covered on the outside with galvanised steel wire No. 10 S.W.G., with a space between spirals of ⅜ in.

(3) 500 m. of discharge rubber hose (as above) of internal diameter of ¾ in.

(4) 200 m. of rubber hose for watering purposes, 3 ply, 60 ft. in length and ½ in. internal diameter, covered on the outside with galvanised steel wire

(5) 200 m. of rubber hose for oxygen, 5 mm. internal diameter

(6) 50 m. of reinforced rubber piping for radiators (without wire), of 1¼ in. internal diameter

(7) Ten rubber suction pipes for pumps, 3 ply, lined inside with galvanised steel wire No. 8 S.W.G., with a space of 7/16 in. between spirals up to 3 in. each end and a covering of cloth over the wire. Internal diameter 2 in. and length 20 ft.

(8) Ten rubber suction pipes for pumps (as above) of 3 in. internal diameter and 20 ft. in length

(9) Six rubber suction pipes for pumps (as above) of 3 in. internal diameter and 3 m. in length

(10) Two rubber suction hoses for pumps, of 6 in. internal diameter and 7 ft. in length

(11) 25 rubber hoses for washing boilers, of 4 ply, covered on the outside with flat galvanised wire No. 3 × No. 11 S.W.G., with a space of ¾ in. between spirals, of 2¼ in. internal diameter and 35 ft. in length

(12) Ten special hoses for water and oil for engine washing machine, to resist a pressure of 100 lb. per sq. in. Internal diameter ¾ in. and length 50 ft.

(13) Five rubber pipes for air, for engine washing machine, without joins, to resist a pressure of 100 lb. per sq. in., of ½ in. internal diameter and 50 ft. in length

(14) Two rubber hoses for boiler washing machine, of 6 ply, and 1½ in. internal diameter and 50 ft. in length

(15) 400 m. of rubber hose for pneumatic machine, 4 ply, lined with flat wire, in lengths of 50 ft. to resist a pressure of 100 lb. per sq. in., and internal diameter of ½ in.

(16) 500 m. of hose as (15), but of ¾ in. internal diameter.
(17) 50 kg. of rubber sheets of 3 ft. in width and ¾ in. thick
(18) 50 kg. of rubber sheets of 3 ft. in width and ¼ in. thick
(19) 25 kg. of rubber sheets of 3 ft. in width and 3/16 in. thick
(20) 100 kg. of rubber sheets of 3 ft. in width and ⅛ in. thick
(21) 60 kg. of rubber sheets of 3 ft. in width and 1/32 in. thick
(22) 5,000 rubber rings, rectangular section, for packing gauge glasses, 1 in. external diameter × ½ in. thickness × ½ in. diameter of hole, 5/16 in. external diameter
(23) 50 rubber rings for ACME pipes
(24) 30 rubber rings for ACME pipes
(25) 50 rubber valves
(26) 1,600 rubber pads for three drum sander
(27) 100 asbestos packings for steam hammers, composed of asbestos, metallic cloth and rubber, 1½ in. square
(28) 50 kg. of round asbestos packing—⅜ in.
(29) 100 kg. of round asbestos packing—½ in.
(30) 100 kg. of round asbestos packing—⅝ in.
(31) 500 kg. of asbestos packing for petroleum, of 1 in. diameter
(32) 350 kg. of semi-metallic packing, for steam, of ¼ in. thickness
(33) 150 kg. of semi-metallic packing, for hydraulics, of ¼ in. thickness
(34) 200 m. of asbestos tape for joints, for joining ash-pans and fire-boxes of petroleum locomotives, of ⅛ in. thickness and 2½ in. width
(35) 250 kg. of asbestos cement for lining steam piping
(36) 12 asbestos joints for fuel-oil boilers, 1 ft. 6 in. × 1 ft. 1 in. × ¼ in.
(37) 24 asbestos joints for fuel-oil boilers, 1 ft. 4 in. × 11½ in. × ¼ in.
(38) 12 asbestos joints for fuel-oil boilers, 1 ft. 2 in. × 11 in. × 1 in. × ¼ in.
(39) 30 kg. of asbestos in sheets of approx. 1 m. square—1/16 in. thick
(40) 30 kg. of asbestos in sheets of approx. 1 m. square—⅛ in. thick
(41) 10 kg. of asbestos-board for engine joints, 80 in. × 60 in. × 1/32 in.
(42) 80 kg. of resistant asbestos board for joints, 40 in. × 40 in. × 1/32 in.
(43) 600 kg. of resistant asbestos board for joints, 40 in. × 40 in. × 1/16 in.
(44) 80 kg. of cement in powder for joints

The closing date for receipt of tenders in Montevideo is February 10, and offers must be maintained for 60 days. Tenders must be in duplicate, written in Spanish, the original being drawn up on stamped paper, and must be in closed and sealed envelopes bearing the indication: Gerencia General de los Ferrocarriles del Estado, Calle La Paz, No. 1095, Montevideo.

According to Uruguayan Law, tenders must be presented to State or municipal bodies by accredited agents in Uruguay. A list of agents willing to act on behalf of tenderers can be obtained on application to the Commercial Relations & Exports Department of the Board of Trade, Room 7168, Horse Guards Avenue, London, S.W.1. A copy of the tender documents and specification (in Spanish) may be seen at the Commercial Relations & Exports Department. A further copy is available for loan to interested firms.

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POWELL DUFFRYN DIVIDEND.—An interim dividend has been announced of 3 per cent actual, less income tax at 9s. 6d. in the £, on the £9,660,471 ordinary stock of Powell Duffryn Limited in respect of the year ending March 31, 1953. Payment is to be made on February 24, 1953, to holders registered on the books of the company at close of business on January 1, 1953.

# Notes and News

**Talyllyn Railway Company, Towyn, Merioneth.**—Applications are invited for the post of general manager for the summer season of 1953. See Official Notices on page 55.

**Diesel Engine Production.**—Stationary and rail traction diesel engines under construction or completed during 1952 by Sulzer Brothers Limited, of Winterthur, Switzerland, and the company's licensees throughout the world, amounted to a total of 297,700 h.p.

**Chief Inspector Required.**—Applications are invited for the post of chief inspector to take charge of a works inspection department concerned with all parts of locomotives and the inspection and testing of locomotives and boilers at various stages of construction. See Official Notices on page 55.

**Northern Ireland Travel Poster.**—The poster reproduced below, depicting the Amphitheatre at the Giant's Causeway in County Antrim, Northern Ireland, was produced in association with the Northern

*Poster showing the Amphitheatre of the Giant's Causeway, County Antrim*

Ireland Tourist Board and the Ulster Tourist Association by the London Midland Region of British Railways. The poster is one of the series referred to in our November 21 issue, when another of the subjects was reproduced.

**Reinforced Plastics Technical Committee.**—The British Plastics Federation, which has been considering provision in its organisation for firms interested in low-pressure reinforced plastics, is to form a special technical committee of representatives from the appropriate groups of the Federation and responsible to the main Technical Committee, to be known as the Glass & Asbestos Fibre Reinforced Plastics Technical Committee. It will hold its first meeting at the Federation offices, 47-48, Piccadilly, London, W.1, on January 15. Membership of the committee is restricted to members of the Federation, but application can be made for membership of the Federation and the appropriate group within it. Firms eligible for representation on the committee are those carrying out experiments or production on reinforced plastics or materials for their manufacture.

**Third Class Sleeping Cars on Euston-Glasgow Trains.**—In connection with the use of improved third class two-berth sleeping cars on night trains between Euston and Scotland (see last week's issue), the London Midland Region states that only the Euston-Glasgow services (except the 9.10 p.m. as previously recorded) have all their third class sleeping accommodation of this type.

**Closing of L.M.R. Stations.**—The London Midland Region announces that Ringley Road Station, between Salford and Bury, will be closed for passengers, parcels, and passenger train merchandise on and from January 5, 1953. Passengers should book to Whitefield, Kearsley, or Radcliffe according to direction of travel, whence the Lancashire United Transport Company operates road services. Parcels and passenger train merchandise will be dealt with by Radcliffe Bridge.

**Havana Rail Stock.**—Holders of loan and share capital of United Railways of the Havana & Regla Warehouses, Limited, and 5 per cent mortgage debentures and debenture stock of Havana Terminal Railroad Company are now notified, in connection with the companies' capital reorganisation scheme which is now operative, as reported in our December 19, 1952, issue, that they must now exchange their existing stock for certificates in respect of the new stocks to which they are entitled.

**Railway Benevolent Institution.**—A board meeting of the Railway Benevolent Institution held on December 17 received the report on the flag day collection held in aid of the funds of the Institution on all Regions on August 22, 1952. The total amount collected was £7,962 11s. 3d., and the committee expresses thanks to all who by personal contribution and generous co-operation contributed to such a satisfactory collection. A resolution in similar terms has been forwarded to the Chief Regional Officers with the request that the board's appreciation be conveyed to all members of the staff concerned. Sums collected on the individual Regions were:—

| | | |
|---|---|---|
| Southern Region | ... | £2,175 16s. 1d. |
| London Midland Region | ... | 1,832 1s. 11d. |
| Western Region | ... | 1,418 17s. 9d. |
| Eastern Region | ... | 1,057 11s. 11d. |
| North Eastern Region | ... | 742 17s. 3d. |
| Scottish Region | ... | 684 19s. 11d. |
| Miscellaneous | ... | 50 6s. 5d. |
| | | £7,962 11s. 3d. |

At the same meeting the Board granted annuities to four widows and 14 members involving an additional liability of £346 17s. per annum. Thirty-five gratuities were also granted, amounting to £417 10s. to meet cases of immediate necessity. Grants made from the Casualty Fund during the month of November, 1952, amounted to £572.

**Improvements at Birkenhead Motive Power Depot.**—The London Midland Region is to install mechanical coaling and ash handling plants at Birkenhead motive power depot to enable the staff to deal more quickly and efficiently with the 93 locomotives maintained there. At present the coaling of locomotives and the removal of ash is done manually. Other

# OFFICIAL NOTICES

*The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.*

TALYLLYN RAILWAY COMPANY, Towyn, Merioneth. Applications are invited for the post of General Manager for the Summer Season of 1953. Apply in first instance to the SECRETARY, 344, Lordswood Road, Harborne, Birmingham 17, stating experience, qualifications and salary required.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Methods. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. Price 20*s.* By post 20*s.* 6*d.* *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

CHIEF INSPECTOR. A Chief Inspector is required to take charge of a Works Inspection Department concerned with all parts of locomotives and the inspection and testing of locomotives and boilers at various stages of construction. The appointment would be to the Senior Staff of the Company and would carry a pension under The United Steel Companies' Scheme. A full craft training and previous experience of locomotive building is essential. Application forms may be had by writing to the GENERAL MANAGER, YORKSHIRE ENGINE COMPANY LIMITED, Meadow Hall Works, Wincobank, Sheffield.

EAST MIDLANDS firm of Engineers require a Draughtsman with Workshops experience. Knowledge of railway permanent-way preferably but not essential. Five-day week, superannuation scheme, canteen. Reply stating age, experience, salary, etc., in confidence to Box 701, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

BOUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25s. per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

THE GOVERNMENT OF PAKISTAN, Karachi invites tenders for the supply to the North Western Railway of:—13,692 tons Medium Manganese Steel Rails 90-lb. Rails; 13,990 tons Medium Manganese Steel Rails 75-lb. Rails; 75-000 Nos. of Fish-Bolts and Nuts. Tender documents with Specification can be obtained from the OFFICE OF THE HIGH COMMISSIONER FOR PAKISTAN IN LONDON, Supply & Stores Department, 39, Lowndes Square, London S.W.1. (Room No. 115) on payment of £2 per set, which amount will not be refunded. Tenders will be opened in Karachi on January 28, 1953 and not on January 5 as already advertised.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10*s.* 6*d.*—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8½ in. by 5½ in. 82 pp. Diagrams. 5*s.* By post 5*s.* 3*d.* *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

improvements which will be carried out in the depot will be the installation of a double storage water tank of 100,000 gal., with four additional water columns, and the replacement of gas by electric lighting.

**Public Transport Association Conference.**—The 1953 conference of the Public Transport Association will be held at Folkestone from April 21 to 23. During the meeting papers will be read by Mr. H. Tennant, Chief Engineer of Ribble Motor Services Limited, on fuel economy; and by Mr. W. G. Copestake, Chief Engineer, Birmingham City Transport, on the development of lightweight buses. Delegates will attend a civic reception at the Leas Cliff Hall, Folkestone, on April 22.

**British Wood Preserving Association.**—The 1953 Convention of the British Wood Preserving Association will be held at Trinity College, Cambridge, from June 24 to 26. Delegates will assemble for lunch on June 24, and the official reception and dinner will be held in the Hall of Trinity College on June 25. The charge for attendance at the Convention will be 5½ guineas, which includes full board and lodging, gratuities and attendance at the official reception and dinner.

**Road Accidents in October and November.**—Preliminary returns received by the Ministry of Transport show that road casualties in November totalled 16,259. This includes 412 killed and 4,186 seriously injured. Compared with November, 1951, the total figure is less by 2,793, and the numbers of killed and seriously injured by 151 and 662. The final casualty total for October was 17,859, or 239 more than was previously announced. This total is 738 less than in October, 1951. There were 62 fewer killed, but 101 more were seriously injured.

**Crompton Parkinson Dividend Maintained.**—A final dividend of 3¾ per cent and a cash bonus of 3¾ per cent are to be paid by Crompton Parkinson Limited for the year to June 30, 1952, making with the interim dividend a total distribution of 11¼ per cent, as for the previous year. Last June, however, the £150,000 ordinary and the £2,927,797 "A" ordinary were consolidated and the ordinary holders, as compensation for the surrender of voting control, received a scrip bonus of 12½ per cent. The final dividend and bonus now announced are payable on the larger capital. The net income taken to account by Crompton Parkinson Limited after charging tax and provisions was £321,656, against £304,583 for the previous year, whilst group net income was £397,934 (£361,315). The British Electric Transformer Company, which is controlled by Crompton Parkinson, is paying a dividend of 1s. 10d. per 5s. ordinary share, against 2s. 5d. for 1950-51.

**Helicopters for London-Birmingham Air Service.**—Two British type "171" mark 3A single rotor helicopters have been ordered from the Bristol Aeroplane Co. Ltd. by British European Airways. It is intended to use the aircraft on passenger services between London and Birmingham, which it is hoped to resume this summer. Each aircraft will carry four passengers. A similar machine at present engaged on development flying and crew training will shortly be used for freight traffic on the same route.

**"West Riding" Express Broadcast.**—A 45-minute broadcast was given on the North Home Service of the B.B.C. on December 30, entitled "West Riding 3.45." Special facilities provided on the down "West Riding" on December 15, and at Kings Cross and Leeds Central, resulted in 55 separate recordings being made, 42 of which were on the train itself; and 17 members of the staff were interviewed. The feature, in the production of which assistance was given by many departments of the Eastern and North Eastern Regions, gave the general public an insight into the care taken in the preparation and running of a main-line express.

**C.P.R. Road-Rail Freight Service.**—The Canadian Pacific Railway fast freight service between Montreal and Toronto has been speeded up and improved by the use of road trailers which may be conveyed on railway flat wagons. Consignments are loaded into the trailers at the forwarder's premises and the trailers are hauled by road tractor to a depot where by means of a ramp there, are run on to flat wagons for conveyance overnight to destination station by fast freight train. At the other end, another tractor hauls the trailer to the consignee's premises. At present there are seven flat wagons and 14 trailers for the service, and on an average two trailers are conveyed each way nightly.

**Pilmoor South—Pickering Line: Withdrawal of Passenger Service.**—The North Eastern Region announces that passenger services will be withdrawn between York and Pickering *via* Gilling from February 2. The stations concerned are Husthwaite Gate, Coxwold, Gilling (for Ampleforth College), Nunnington, Helmsley, Nawton, Kirbymoorside, and Sinnington. Suitable alterations are being made in local bus services. Apart from closure of Sinnington for all purposes, there will be no change in freight traffic arrangements. Parcels will be dealt with by road services. It is also proposed to retain facilities at the principal stations for the running of excursions.

**Sudan Government London Agency Change of Address.**—The Sudan Government Agency in London is removing on January 19 from Wellington House, Buckingham Gate, London, S.W.1, to Sudan House, Cleveland Row, St. James's, S.W.1. The telephone number will be Trafalgar 8080.

**Electrical Engineers' Exhibition.** — The second Electrical Engineers' Exhibition organised by the Association of Supervising Electrical Engineers will be held at Earls Court, London, S.W.5, from March 25 to 28, from 10 a.m. to 7 p.m. The total area of the exhibits will cover over 82,000 sq. ft. Over 100 manufacturers, as well as the British Electricity Authority, the Electrical Research Association, and the British Electrical Development Association are exhibiting. Equipment for lighting, heating, cooking, power, controls, switchgear, cables, relays, thermostats, motors, electronics, transformers, meters, servicing, and spare part replacements will be displayed.

**Serck Radiators Limited.**—Progress of the companys new non-ferrous tube mill was mentioned by Mr. W. H. Newton, Chairman of Serck Radiators Limited, in his statement circulated with the report and accounts for the year ended August 2, 1952. Full production was reached in April, and the results of its first six months made it clear that the new venture would be a valuable addition to the organisation. Premises previously occupied by the tube mill were being absorbed into the Engineering Department and would go a long way towards maintaining the steady increase of production already being achieved.

**International Sleeping Car Share Trust Limited.**—Mr. Stanley J. Adams, Chairman of the International Sleeping Car Share Trust Limited, explained at the annual general meeting on December 22 that only in January, 1952, was the Trust

restored to rightful ownership of its Wagons-Lits shares sequestrated by the German authorities during the last war. Consequently receipt was delayed of dividends due in 1950 and 1951. The accounts showed a credit for preference dividends for thirteen and ordinary for three years, no ordinary dividend having been paid for the remaining ten years. If they paid a dividend out of their balance of £27,900 they would incur an additional charge to profits tax of 20 per cent of the gross amount. Some three-fifths of the Trust shares were held abroad in one holding and the balance mainly in very small holdings. Use of all the net profit would result in a dividend of 0·8 per cent gross. The board therefore had decided reluctantly against a dividend which would cost so much in extra taxation and yield so little.

**Road Haulage Association Annual Luncheon.**—The Minister of Transport, Mr. Alan Lennox-Boyd, will be the principal guest at the annual luncheon of the Road Haulage Association, to be held this year at Grosvenor House, Park Lane, London, on Tuesday, May 19. On May 20, the association's annual general meeting will take place together with meetings of the retiring national council and the new national council which will take office on that date.

**British Railways Coal, Iron and Steel Carryings.** — British Railways carried 2,473,240 tons of deep-mined and opencast coal during the week ended 6 a.m. on January 5, compared with 2,473,130 tons during the corresponding week last year. During the week ended December 27, 160,623 tons of iron and steel from the principal steelworks and 231,000 tons of iron ore were conveyed.

## Forthcoming Meetings

January 12 (*Mon.*).—Institute of Transport, in the Jarvis Hall (R.I.B.A.), 66, Portland Place, W.1, at 5.45 p.m. "Fundamental Principles of Transport Operation" by M. Louis Armand.

January 12 (*Mon.*).—Institute of Transport, Berks, Bucks & Oxon Section, in the Board Room, 32, Thorn Street, Reading, at 7 p.m. Films from the British Transport Commission Film Library.

January 13 (*Tue.*).—Institute of Transport, Yorkshire Section, at the Great Northern Hotel, Leeds, at 6.45 for 7.15 p.m. Annual Dinner and visit of President.

January 13 (*Tue.*).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W.C.2, at 6 p.m. "Inductive Interference from Electric Power Lines and Traction Circuits," by D. R. Turner.

January 13 (*Tue.*).—British Railways (Southern Region) Lecture & Debating Society, at the Chapter House, St. Thomas' Street, S.E.1, at 5.45 p.m. Films of the Paris-Lyons Electrification.

January 14 (*Wed.*).—Royal Society of Arts, at John Adam Street, Adelphi, W.C.2, at 2.30 p.m. "Use and Abuse of Fuels," by Mr. W. E. P. Johnson.

January 14 (*Wed.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 5.30 p.m. "Limitations on Train Performance with Electric Traction," by Mr. A. S. Robertson.

January 14 (*Wed.*).—Railway Students' Association at the London School of Economics & Political Science, Houghton Street, Aldwych, W.C.2, at 6.15 p.m. Exhibition of Transport Films by the British Transport Commission.

January 15 (*Thur.*).—Diesel Engine Users' Association, at Caxton Hall, Westminster, S.W.1, at 2.30 p.m. "Small Air-cooled Diesel Engines—Development and Applications," by Mr. C. F. Nossiter.

January 15 (*Thurs.*).—British Railways (Western Region) London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, at 5.45 p.m. Railway Quiz. Questionmaster: Mr. H. G. Bowles.

January 15 (*Thu.*).—Institute of Transport, Northern Ireland Section, at 21 Linenhall Street, Belfast, at 6.0 p.m. "Railways of Argentina," by Mr. R. Flack.

January 16 (*Fri.*).—Locomotive & Carriage Institution of Great Britain & Eire, in the Board Room, Railway Clearing House, 163, Eversholt Street, N.1, at 7 p.m. "Running Characteristics of some well-known Modern Locomotives," by Mr. O. S. Nock.

January 16 (*Fri.*).—Institute of Transport, Tees-side Section, at the Cleveland Scientific and Technical Institution, Middlesbrough, at 7 p.m. Paper on a railway commercial subject by Mr. H. F. Sanderson.

January 17 (*Sat.*).—British Railways (Southern Region) Lecture & Debating Society, at 3.0 p.m.; visit to the new colour-light signalbox at Streatham Junction.

## Railway Stock Market

There have been slightly more active conditions in stock markets, and prices, particularly in the industrial sections, have shown good response. British Funds were somewhat uncertain, now that the revenue figures for the past nine months have diminished hopes of lower taxation this year, though it is being suggested in the City that the Chancellor of the Exchequer might decide to cut subsidies to enable him to reduce the tax burden. Moreover, in some quarters, talk of a lower bank rate persists. Now the £20,000,000 Anglo-Iranian Oil debenture issue is out of the way, brokers expect buying interest in markets to increase, particularly in the industrial groups.

It is being emphasised that in the engineering and kindred sections yields are attractive in many instances, and that there are good prospects of dividends being maintained. On the other hand, if there is a rush of new issues over the next few months, they would compete with existing securities. In general, however, it is widely assumed that 1953 will be a more active year for markets than 1952. Foreign rails may very well continue to provide individual features, but generally the trend in this section will probably depend on the prevailing tendency of markets as a whole.

A feature has been the start of dealings in United of Havana stocks in their new form resulting from the capital reorganisation. Business was on a small scale, but they may, of course, have speculative possibilities as time proceeds, assuming a reasonable take-over offer comes from Cuba. At the time of going to press the 4 per cent "A" income stock is 67½, the "B" 64½, the 5 per cent second income stock 21, and the consolidated stock 3. Manila issues, though active, were easier with the "A" debentures at 82, the "B" 71, the preference shares 9s. 1½d. and the ordinary shares 3s. 9d.

Costa Rica ordinary stock marked 9½ and the 6½ per cent second debentures 42, while Dorada reflected further profit-taking, and eased afresh to 55. Nyasaland Railways £1 ordinary, again changed hands around 4s. 6d.

Elsewhere, Barsi Light Railway stock remained active on break-up estimates, but at 1:8 has lost part of its recent advance.

Guayaquil & Quito 5 per cent first bonds changed hands fairly actively around 38¾, and business up to 27½ was recorded in Chilian Northern 5 per cent first mortgage debentures. Mexican Central "A" debentures were 64½. San Paulo 6s. 8d. ordinary units were 7s. 6d., Nitrate Rails shares 20s. 6d. and Taltal shares 15s. Antofagasta ordinary and preference were £11½ and £51½ respectively.

White Pass & Yukon have been lively, but failed to hold an earlier gain, the common shares easing to $18 with the convertible debentures at £68. Canadian Pacifics were $61½xd, 4 per cent preference stock £63½xd and 4 per cent debentures £79.

In road transport shares, West Ridings were 33s. 6d., Southdown 83s. 9d., while Ribble Motor Services 6½ per cent preference marked 22s. 3d. and Northern General Transport 6½ per cent preference 23s. Elsewhere, Scottish Motor Traction 5s. shares changed hands actively around 14s. 4½d. B.E.T. deferred stock was £425.

Among shares of locomotive builders and engineers, Bever Peacock at 33s. 9d. moved higher on balance, buyers again having been attracted by talk of higher dividend possibilities. Hurst Nelson were 43s. 6d. at Glasgow, North British Locomotive 14s. 3d. and elsewhere, Birmingham Carriage were 32s. 1½d. Central Wagon were 58s. 6d., Vulcan Foundry 22s. 9d., Gloucester Wagon 10s. shares 11s. 9d., Wagon Repairs 5s. shares 12s. 9d. and Charles Roberts 5s. shares 20s. 6d.

Engineering and kindred shares generally showed firmness and have held recent gains. Vickers were higher again at 45s., John Brown 45s. 3d., Cammell Laird 5s. shares 11s. 3d. and T. W. Ward 71s. 6d. Babcock & Wilcox continued active around 70s. 9d., but Guest Keen eased slightly to 50s. 7½d. Ruston & Hornsby showed firmness again at 39s. 9d., Renold & Coventry Chain were 38s.xd, George Cohen 22s. 4½d., Neepsend 26s. 6d., R. A. Lister 31s., while Davy & United Engineering strengthened further to 33s. 7½d. Tube Investments were 60s. 9d., Staveley 74s. 1½d. and Sheepbridge Engineering 5s. shares 12s. 6d. while G. & J. Weir 5s. shares were 13s. 7½d. Westinghouse Brake shares have changed hands around 41s. 6d.

The prevailing view in the market is that engineering and kindred shares are likely to continue to attract more attention, because yields in most cases are attractive and compare favourably with the return on industrial shares. Moreover, the engineering industry is scheduled to play an increased rôle in export trade, and larger supplies of steel are expected this year.